Google

Appendix D
Built form design objectives

04.2023

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CHAPTER 1

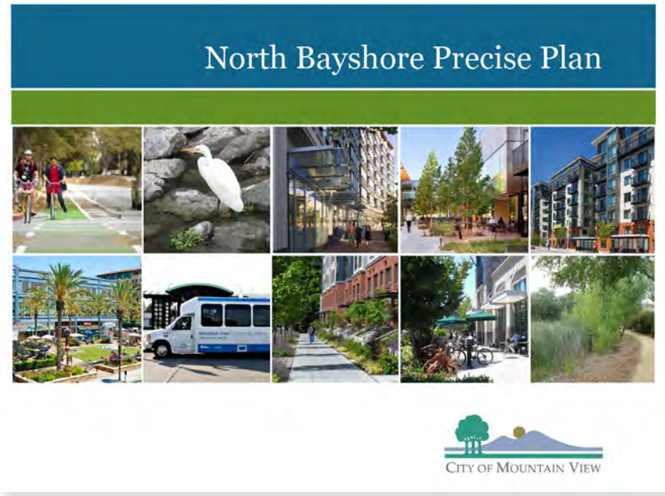
Introduction

D1.1. Realizing an Urban Design Vision for North Bayshore

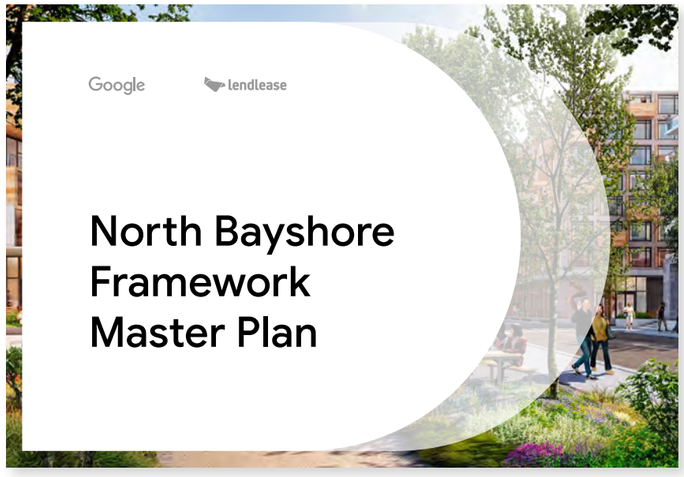
North Bayshore Precise Plan

Both the North Bayshore Framework Master Plan and the Built Form Design Objectives build upon the urban design vision established by the *North Bayshore Precise Plan* (NBPP).

Where the Master Plan provides the planning framework for a holistic new district, this document focuses on the block and building scale with urban design strategies that will contribute to the NBPP's overall vision for a walkable, human-scale, and memorable new urban neighborhood.



NORTH BAYSHORE PRECISE PLAN

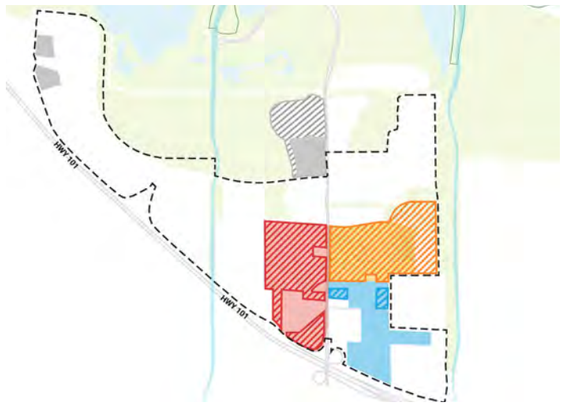


NORTH BAYSHORE FRAMEWORK MASTER PLAN

Master Plan Development Framework

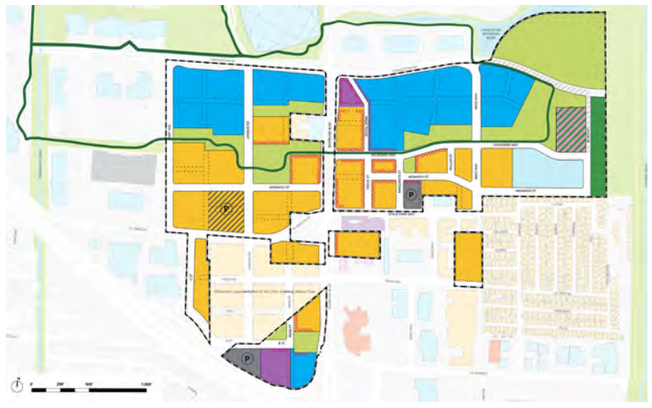
The following topics established in the Master Plan lay the foundation for the Design Objectives:

MASTER PLAN NEIGHBORHOODS



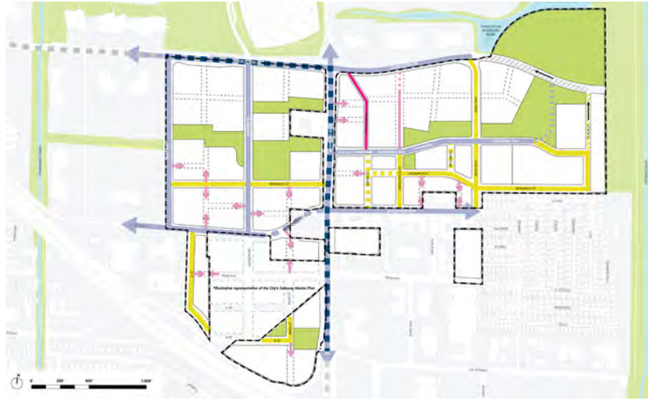
DEVELOPMENT BLOCKS

LAND USE

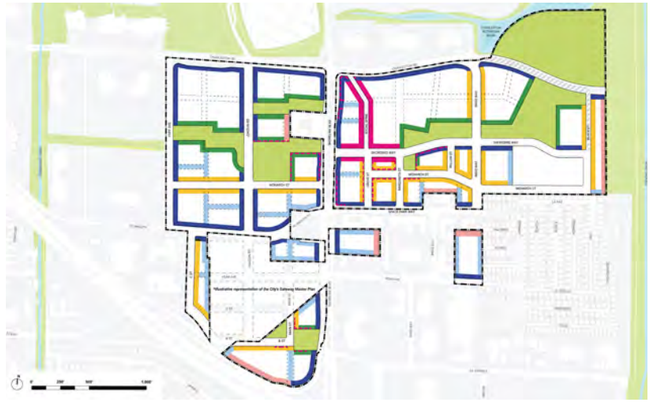


OPEN SPACE

STREET NETWORK



SETBACKS



Master Plan Urban Design Values

The Master Plan envisions a major transformation from the area's existing suburban office-park setting to a built environment that is characterized by the following design values:

Walkable, pedestrian-oriented block network

High-quality, active public frontages

Buildings oriented to the public realm

Varied building massing, human-scale building design

Unique, urban design and architectural character

High-quality on-site open space

Context-driven and sustainable design elements

D1.2. Context-Responsive Design Guidance

In addition to delivering upon the overarching design principles established in the NBPP, the Master Plan introduces a built form hierarchy where massing and frontage design is directly informed by the street or open space upon which a building fronts. See *Chapters 3 & 4* for explanation on this overarching framework.

The Master Plan also envisions a series of context-responsive urban design moves based on incorporated guidance. While not explicitly described by the NBPP, the following moves are consistent with the overall intent of its design principles:

1. Non-Vehicular Frontages

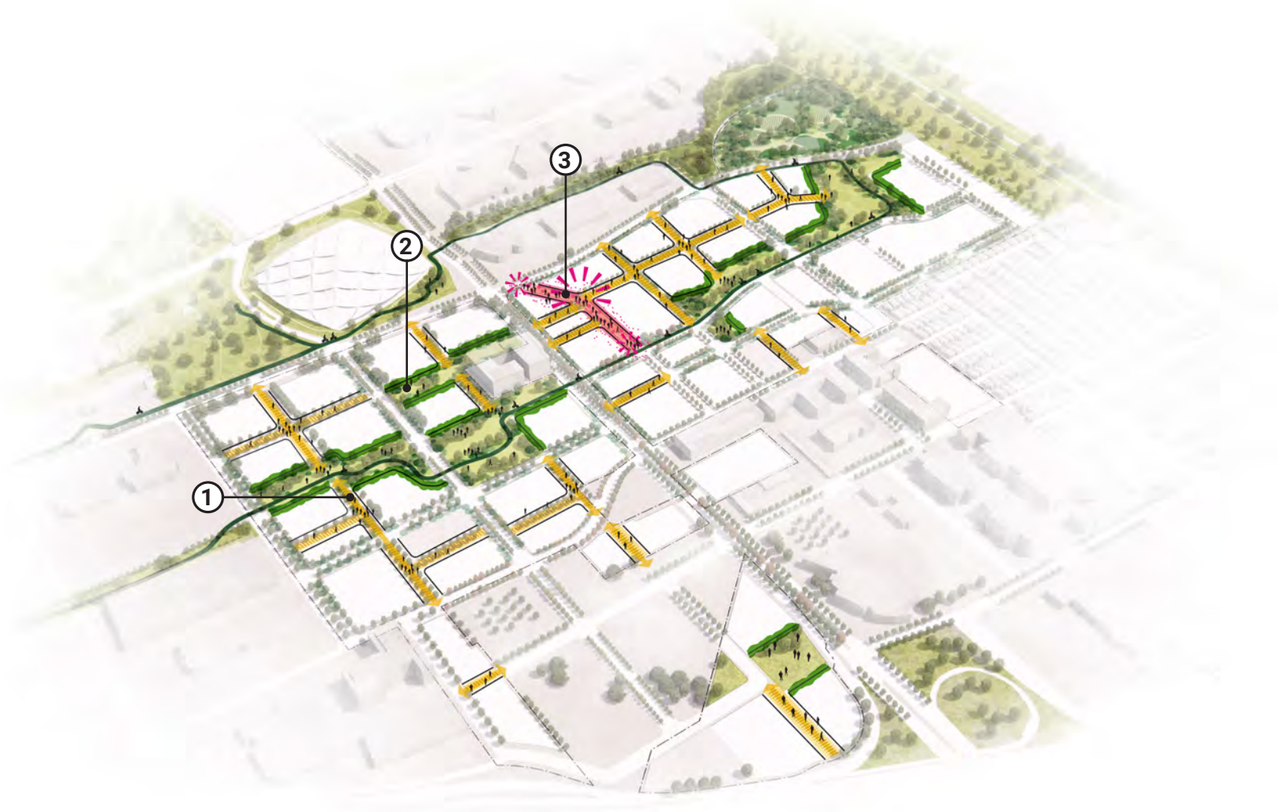
The Master Plan promotes a people-first environment with a dense network of non-vehicular connections comprised of the Green Loop (a multi-use path) and mid-block breaks. See *Chapters 3 and 4* for further details on how development along these non-vehicular connections is envisioned to complement the urban, street-oriented built form articulated in the NBPP.

2. Buildings Fronting Parks

The expansive open space network that weaves throughout the plan area results in several development scenarios where new buildings will have frontage directly onto open spaces. These buildings will bear a unique responsibility to engage with the adjacent open space, and thus require more tailored design guidance for massing, articulation and ground floor frontage (*See Chapters 3 and 4* for further details).

3. Pedestrianized Retail Street

The Master Plan establishes the Social Spine, which is envisioned as a pedestrian-only, retail-focused mid-block passage that serves as the social heart of the area, bringing together a full spectrum of future residents, workers, and visitors. The intimate nature of the street, mixed with its retail ground floor focus necessitates further design intention beyond the principles established in the NBPP. (See *Chapters 3 and 4* for further details)



D1.3. Document Overview

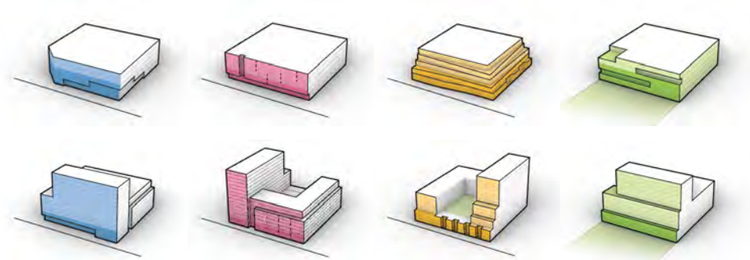
Built Form design guidance is provided across the following chapters:

Chapter 2
Place Framework

Establishes the overall urban design strategy and character of the Master Plan neighborhoods, focusing on the rhythm and character of blocks and streets, and access and circulation.

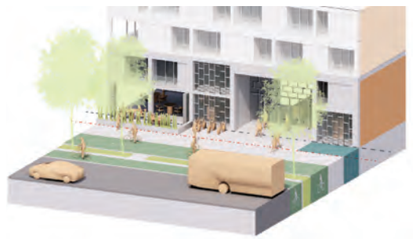
Chapter 3
Built Form

Covers the general massing and site planning strategies for residential and office development proposed by the Master Plan according to location along certain street types or open spaces.



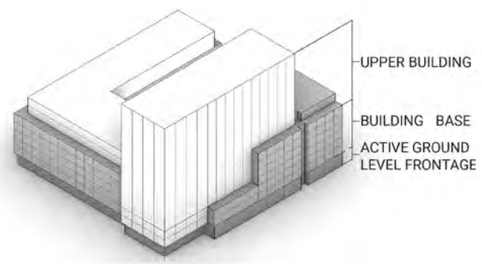
Chapter 4
Frontages

Describes the interface between development block and the street or open space on which the building fronts, focusing specifically on the first 40 vertical feet.



Chapter 5
Materials and Facade Articulation

Describes recommended use of materials and articulation in architectural design to support higher-quality built form outcomes.



CHAPTER 2

Place Framework

NBPP Design Principles

This chapter addresses the Master Plan's approach to the following NBPP urban design principles:

#1. Develop a connected network of pedestrian-oriented blocks and streets

#2. Create high-quality public frontages

#3. Orient buildings towards streets and shared open spaces

#9. Create high-quality on-site open space

D2.1. Overview

The following chapter provides high level urban design guidance at the neighborhood or multi-block scale, building from the planning framework established in the Master Plan and further illustrating how urban design principles from the NBPP will translate at a district scale.

The intent is to ensure a coordinated, holistic urban design language for future development, while also encouraging individual moments of unique placemaking, distinctive architectural character, and context-specific design expression that are integral to the success of any diverse, long-lasting, urban neighborhood.

The Place Framework centers on four design drivers, as illustrated in *Figure D2.1.1*:

- Diverse Mix of Uses
- Vibrant Social Spine
- Immersive Open Space
- Transit-Oriented Community

These drivers are explored further in the following sections: Urban Design Vision, Block Character, Access & Circulation, and Edge Framework.


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Figure D2.1.1 PLACE FRAMEWORK OVERVIEW

1 DIVERSE MIX OF USES

A complete, mixed-use neighborhood providing a diverse mix of jobs, housing, open spaces, and everyday amenities all within walking distance of high-quality bicycle, pedestrian, and transit facilities

2 VIBRANT SOCIAL SPINE

A vibrant 24/7 spine of activity with restaurants, services, and social spaces to gather, providing an intimate alternative to the busier transit thoroughfare of N. Shoreline Boulevard

3 IMMERSIVE OPEN SPACE NETWORK

A connected system of parks and trails that weaves throughout the Master Plan and connects to surrounding regional open spaces and ecological corridors

4 TRANSIT-ORIENTED COMMUNITY

A transit-supportive neighborhood with more intensive development oriented towards the high-capacity transit routes along N. Shoreline Boulevard and Charleston Road

D2.2. Urban Design Vision

The urban design vision for the Master Plan is based on a spectrum of character zones that range from natural to urban, where vibrant and engaging retail areas are complemented with community-centric neighborhood gathering and recreation spaces, and immersive natural spaces and trails. The existing naturalistic legacy of North Bayshore will be incorporated throughout this spectrum, with contextual design approaches that invite nature into the heart of the district, and weave the future built fabric with its surrounding natural setting.

This urban to natural spectrum is also embodied in the conceptual open space designs provided in *Appendix E Parks & Open Space.*

The following section describes the unique spectrum of character zones envisioned for the Master Plan:

URBAN

Anchored by the Social Spine, Grove Street and the future activity hub at Gateway Plaza, the Urban Character Zone is notable for its density of active ground floor uses where residents, workers, and visitors mingle in higher concentration.

Buildings will serve as landmarks along the street, clearly indicating a sense of arrival along Shoreline Boulevard to this special, "nature-driven" mixed-use district. The design of the adjacent public realm should reflect the large volumes of pedestrians that will move through this area, allowing adequate space for circulation and connections to transit.

Even in this dense, urban setting, thoughtfully integrated landscape features will provide tangible connections to nature, from robust landscape and stormwater elements in the streetscape and building setbacks, to green walls and plantings on the buildings themselves.

NEIGHBORHOOD

By contrast, the Neighborhood Character Zone envisions a more intimate built environment, with a greater focus on nurturing a shared sense of community for residents and daily office users, and lower concentrations of active uses.

Centered around community parks, such as Joaquin Commons, and framed by a network of neighborhood streets and interior mid-block breaks, these areas will feature more residential ground floor units, and offices. Transitional open spaces will help buffer public from private realms and provide interstitial spaces for gathering, resting, and observing the activity within the adjacent parks.

NATURE

Within the Nature Character Zone around the more natural open spaces of Eco Gem and Shorebird Wilds, buildings will adopt a more landscape-driven overall design character, with passive landscape elements and frontage designs that allow the adjacent open spaces to 'spill out' onto the development site and the buildings themselves. Buildings in this character zone are envisioned as 'softer' and more seamlessly immersed in their surrounding natural context. A strong emphasis on landscape design elements will provide people with opportunities to observe and connect with nature, both on the development site itself and from afar.

Figure D2.2.1 URBAN DESIGN CHARACTER ZONES

URBAN

The vibrant, mixed-use heart of the Master Plan, where a density of residential, office, and active uses and multi-modal streetscapes are complemented with an integrated mix of naturalistic elements

NATURE

The interface of the built and natural environments, where building designs are informed by their proximity to both the Eco Gem and Shorebird Wilds, and transition seamlessly with their natural surroundings

NEIGHBORHOOD

Transitional areas between the urban and natural ends of the spectrum, where buildings are oriented around neighborhood parks and pedestrian-oriented mid-block breaks that enable a more intimate, community-oriented sense of place

D2.3. Block Character

The Master Plan's pattern of blocks and streets will help to realize the walkable, pedestrian-oriented environment envisioned by the NBPP, with reduced block sizes and frequent crossings, high-quality and active public frontages, and buildings that orient towards streets and the central public open spaces. This new urban fabric of human-scale, walkable blocks will be held together by a lattice of east-west linear open spaces and north-south pedestrian and bike connections via complete streets and mid-block breaks.

A series of active ground floor uses, starting at the Social Spine and threading south down Grove Street and over to the Gateway Plaza, will reinforce the vibrant, mixed-use character envisioned by the Master Plan, and will help to activate the public realm, instilling a vibrant, people-centric energy throughout the plan area.

The character of each block is derived by its context and broken down into the following categories:

EXTERIOR BLOCKS

These blocks form the boundaries of the neighborhood character zones described in *D2.2 Urban Design Vision*, and establish the continuous street wall and urban pedestrian experience envisioned by the NBPP along a network of pedestrian-oriented and complete streets.

INTERIOR NORTH-SOUTH BLOCKS

Interior blocks are located along mid-block breaks that connect pedestrians to the public open space network. Buildings along these spaces will exhibit a softer, more flexible approach to building edges with greater massing variation, and lower overall densities that facilitate "green", people-oriented linkages between streets and parks.

This approach, while not expressly stated in the NBPP's design standards and guidelines, addresses the NBPP's stated desire for variation in building heights, forms, and scales across the entire area.

Design Objectives

- **Create a walkable, transit-oriented, human-scale neighborhood fabric for North Bayshore.**
- **Encourage streetscape and building diversity.**
- **Establish a unique, urban district character through building architecture and urban design.**
- **Introduce a hierarchy of high-quality open spaces and complete streets that weave development areas with the natural surroundings.**

STRATEGIES

1. Introduce small blocks with frequent intersections approximately every 400 feet.
2. Increase pedestrian connectivity with mid-block breaks and paseos.
3. Introduce a "Social Spine" providing active ground floor uses in a car-free, pedestrian-only urban environment.
4. Create new streets and greenways that seamlessly integrate with existing streets via protected crossings.
5. Establish breaks in the street wall that reduce block scale using visible building entries to courtyards, mid-block passages, and open spaces.
6. Locate active non-residential uses and open spaces along streets to enliven the public realm.
7. Provide consolidated, contiguous open spaces accessible to all.
8. Connect buildings together with a network of public and private open spaces.

Plan D2.3.1 BLOCKS & STREETS FRAMEWORK

Key

- PROJECT AREA
- EXTERIOR BLOCKS
- INTERIOR NORTH/ SOUTH BLOCKS
- PRIORITY ACTIVE USES
- SECONDARY ACTIVE USES
- PARKING
- GREEN LOOP
- SOCIAL SPINE (PEDESTRIAN PRIORITY ZONE)
- INDICATIVE LOCATION OF MID-BLOCK BREAKS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

Note:

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

Future development on the Shoreline Amphitheatre parking site (Parking Block SA-BP-1) shall conform with relevant design guidance established by the City's Public Facility Zone and per the Master Plan project conditions.

D2.4. Access & Circulation

This section details the urban design considerations of the Master Plan's proposed multi-modal network that will eventually serve thousands of future users traveling by foot, bike, transit, and vehicle. Guidance focuses on reinforcing the legibility and hierarchy of different modal routes and their key points of connection, which will help to encourage non-vehicular trips over time.

The Master Plan envisions a robust multi-modal environment for North Bayshore with prioritized pedestrian and bicycle connections, transit-oriented development, and careful integration of parking and off-street loading that avoids conflicts between vehicles and people.

See *Chapter 6 in the Master Plan* for further details on circulation and modal access requirements for the streets and mid-block breaks.

Design Objectives

- **Create a connected street grid that prioritizes access for pedestrians, bicyclists, and transit users.**
- **Design for active mobility users of all ages, enabling a diversity of users to safely move to, through, and within North Bayshore.**
- **Balance trade-offs among competing transportation user interests, while maintaining a safe, people-first street environment overall.**
- **Incorporate landscape elements and sustainable principles into the design of all streets and mid-block breaks that enable connections to nature for people and reinforce the Master Plan's overall nature-driven urban design vision.**

STRATEGIES

1. Design streets to comfortably accommodate bicyclists and pedestrians.
2. Incorporate a mix of street types and bicycle and pedestrian connections that break up large blocks, improve access, and support multi-modal transit.
3. Design streets with robust landscaping that provides pedestrian comfort and creates connections to nature, while balancing the district's active mobility and circulation network goals.
4. Introduce the Social Spine, a pedestrianized mid-block break in the Urban Character Zone lined with active ground floor uses.
5. Locate vehicle entries and off-street loading away from open spaces.
6. Prioritize pedestrian and bicycle access along greenways.
7. Establish on-site office parking, at a rate of 0.2 stalls/ 1,000 sf within a combination of podium, basement, and adjacent surface lots.

D2.5. Edge Framework

The edge framework builds from the edge types established in *Section D2.2 Blocks & Streets* and applies unique built form guidance based upon the street or open space upon which a building is located and the type of building. Massing and frontage design elements of buildings should be responsive to the scale and character of the adjacent street, open space, or mid-block edge. The edge framework provides contextual design guidance to ensure an overall level of cohesion across the Master Plan, regardless of underlying land use or phase of development.

The following section introduces the location of the different edge types (*Plan D2.5.1*), the corresponding building types (*Plan D2.5.2)* , and a series of typical sections (*Figure D2.5.1 – Figure D2.5.6*) that illustrate how the edge framework will establish a legible built form hierarchy that reinforces a human-scale and pedestrian-oriented public realm.

See *Chapter 4 Frontages* for detailed design guidance for the frontage zone for each edge and building type.

Plan D2.4.1 ACCESS & CIRCULATION FRAMEWORK

Key

- PROJECT AREA
- TRANSIT STOPS
- PEDESTRIAN CIRCULATION
- OFFICE PEDESTRIAN CIRCULATION (INDICATIVE)
- PEDESTRIAN PRIORITY ZONE (SOCIAL SPINE)
- MID-BLOCK BREAK TYPE I
- MID-BLOCK BREAK TYPE II
- PARKING GARAGE
- PREFERRED OFF-STREET LOADING + PARKING ACCESS
- CLASS I - GREEN LOOP
- CLASS II - BUFFERED ON STREET BIKE LANE
- CLASS IV- SEPARATED BI-DIRECTIONAL CYCLE TRACK
- CLASS IV - SEPARATED ONE-WAY CYCLE TRACK
- MULTI-USE PATH
- FUTURE BIKE PATH ON PRIVATE PROPERTY OWNED BY OTHERS
- INDICATIVE LOCATION OF MID-BLOCK BREAKS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

Note:

Plans and figures may differ from Conditions of Approval. Conditions of Approval to govern final design unless otherwise determined permissible by City, likely during zoning or building permit application.

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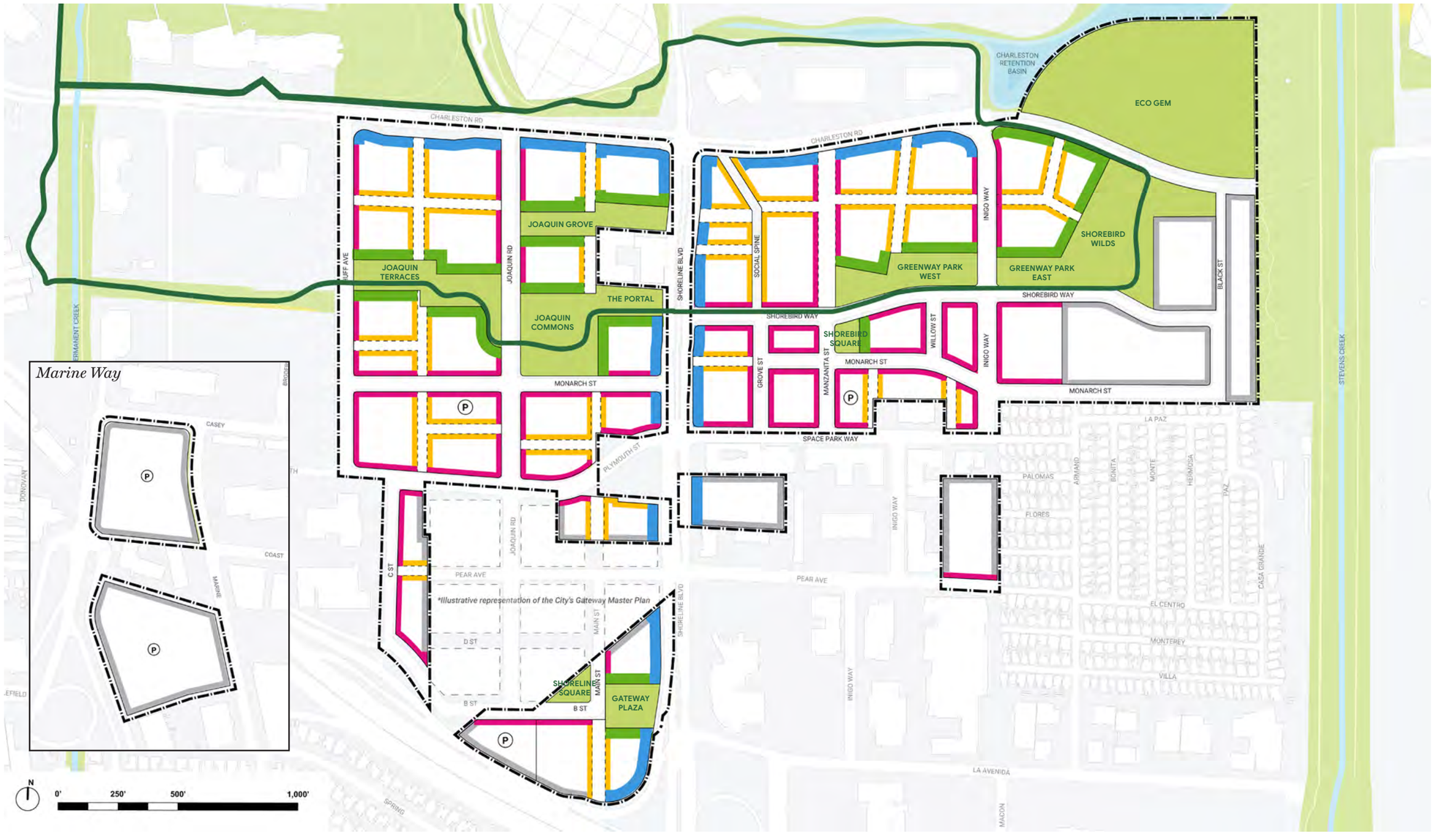
Future development on the Shoreline Amphitheatre parking site (Parking Block SA-BP-1) shall conform with relevant design guidance established by the City's Public Facility Zone and per the Master Plan project conditions.

Plan D2.5.1 EDGE FRAMEWORK



Key

- PROJECT AREA
- LARGE STREET EDGE
- TYPICAL NEIGHBORHOOD STREET EDGE
- OPEN SPACE EDGE
- MID-BLOCK EDGE
- NORTH BAYSHORE PRECISE PLAN GUIDING EDGE
- SOCIAL SPINE (PEDESTRIAN PRIORITY ZONE)
- GREEN LOOP
- INDICATIVE LOCATION OF MID-BLOCK BREAKS/ PRIVATE DRIVEWAYS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

Note:

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Future development on the Shoreline Amphitheatre parking site (Parking Block SA-BP-1) shall conform with relevant design guidance established by the City's Public Facility Zone and per the Master Plan project conditions.

Plan D2.5.2 MASTER PLAN BUILDING TYPES

Key

- PROJECT AREA
- OFFICE BUILDINGS
- RESIDENTIAL BUILDINGS*
- OTHER BUILDINGS (PARKING, COMMUNITY, OR UTILITIES)
- OPEN SPACES
- GREEN LOOP
- INDICATIVE LOCATION OF MID-BLOCK BREAKS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

* Residential use includes hotel for the purposes of the Design Objectives given that hotel buildings share many design principles with multi-family residential

Note:

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Large Streets

The Master Plan's main points of arrival that will eventually serve thousands traveling by foot, bike, transit, and vehicle. Guidance focuses on reinforcing the hierarchy of different modal routes and their key points of connection.

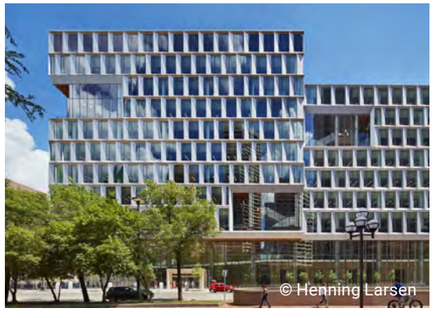
N. SHORELINE BOULEVARD

A mixed-use, transit corridor with primarily residential above active ground floor uses. The streetscape's overall width and robust landscape and amenities both mitigate the scale of this dense urban environment and help support more intense multi-modal use. Wider sidewalks and bike paths also create distance from faster moving vehicles and reinforce the district's active-mobility vision.

Edge Type (*see Chapter 3*)	Large Street
Frontage Type (*see Chapter 4*)	Large Street
Expected Uses	Active Use Residential Office Parking
Building to Building Width	150’ (typical)

Figure D2.5.1 LARGE STREETS (N. SHORELINE BLVD) CONCEPTUAL URBAN DESIGN CHARACTER

Key Map

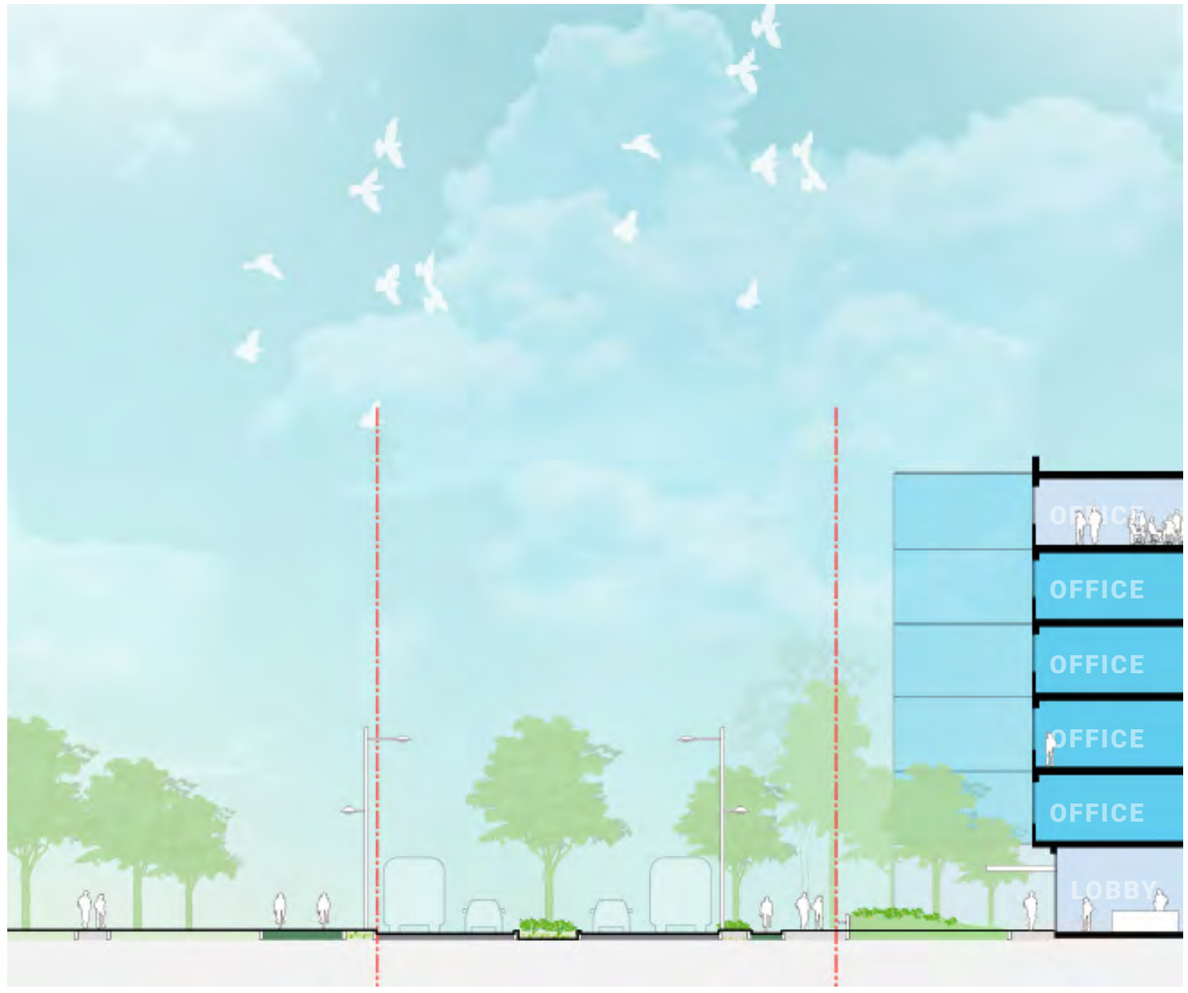


CHARLESTON ROAD

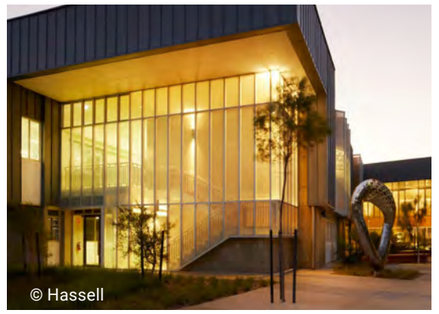
Compared to N. Shoreline Boulevard where the Master Plan proposes new development on both sides of the street, Charleston Road will feature a more asymmetrical design given that existing office on the north side of the street (outside of the Master Plan area) is further set back from the street with larger more park-like setbacks. In response to this existing streetscape character, future office development along Charleston Road will incorporate more frequent and generous landscaped setbacks (coordinated with existing site topography where feasible) to soften the edges of the street with shade trees and understory plantings.

Edge Type (*see Chapter 3*)	Large Street
Frontage Type (*see Chapter 4*)	Large Street
Expected Uses	Office Parking
Building to Building Width	N/A (edge of Master Plan Boundary)

Figure D2.5.2 LARGE STREETS (CHARLESTON RD) CONCEPTUAL URBAN DESIGN CHARACTER



Key Map



Typical Neighborhood Streets

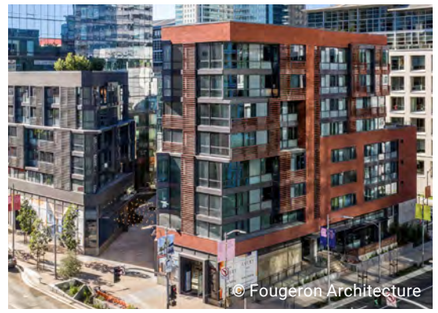
Typical neighborhood streets are located along the remainder of the Master Plan's streets and provide connections from the large street edges to the interior regions of the Joaquin and Shorebird neighborhoods.

These hardworking typical streets of the plan area balance vehicular needs with generous pedestrian, bike and ecological infrastructure. The buildings also do their part, stepping back to create a consistent streetwall across building types while also providing a variety of frontage experiences that support a lively neighborhood experience for residents, workers and visitors.

Edge Type (*see Chapter 3*)	Typical Neighborhood Street
Frontage Type (*see Chapter 4*)	Typical Neighborhood Street
Expected Uses	Active Use
	Residential, Hotel
	Office
	Parking
Building to Building Width	70-90'

Figure D2.5.3 TYPICAL NEIGHBORHOOD STREETS CONCEPTUAL URBAN DESIGN CHARACTER

Key Map



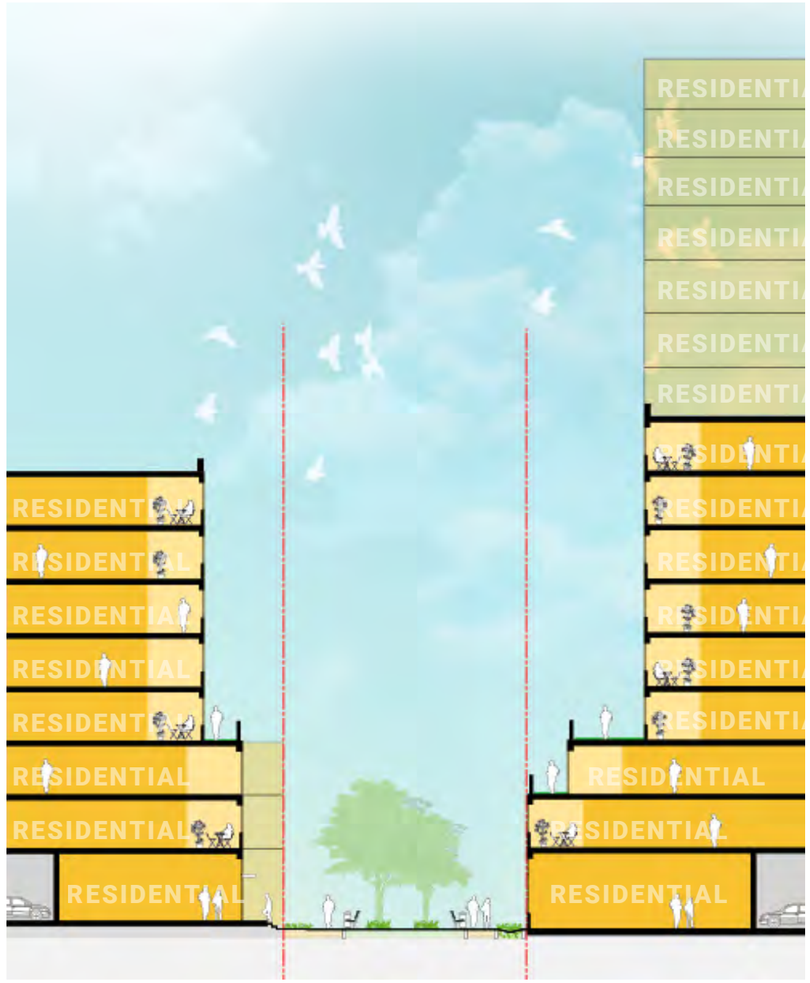
Residential Mid-Block Breaks

Key components of the circulation and open space networks, mid-block breaks reduce the block scale among the residential buildings of the project. Larger scale building massing will be held back from these spaces, favoring a 2-3 story streetwall.

Individual unit entries, stoops, gardens, bays and other small scale building elements will create more intimate and varied building frontages that support the pedestrian- and bicycle-oriented nature of the spaces.

Edge Type (*see Chapter 3*)	Mid-Block
Frontage Type (*see Chapter 4*)	Mid-Block
Expected Uses	Residential Parking
Building to Building Width	40-60’

Figure D2.5.4 RESIDENTIAL MID-BLOCK BREAKS CONCEPTUAL URBAN DESIGN CHARACTER



Key Map

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Office Mid-Block Breaks

Similar to the residential mid-block breaks, office mid-block breaks help to break down the scale of the Master Plan's block pattern, and create intimate public realm connections between office buildings that both connect people to the surrounding open space network and serve as outdoor social spaces for the adjacent office buildings.

Larger scale building massing will be held back from these spaces, favoring a 2-3 story streetwall, with variation in building elements to create more dynamic frontages that support the pedestrian- and bicycle-oriented nature of the spaces and facilitate fluid indoor-outdoor programming opportunities.

Edge Type (*see Chapter 3*)	Mid-Block
Frontage Type (*see Chapter 4*)	Mid-Block - Office
Expected Uses	Office Parking
Building to Building Width	40-60’

Figure D2.5.5 OFFICE MID-BLOCK BREAKS CONCEPTUAL URBAN DESIGN CHARACTER

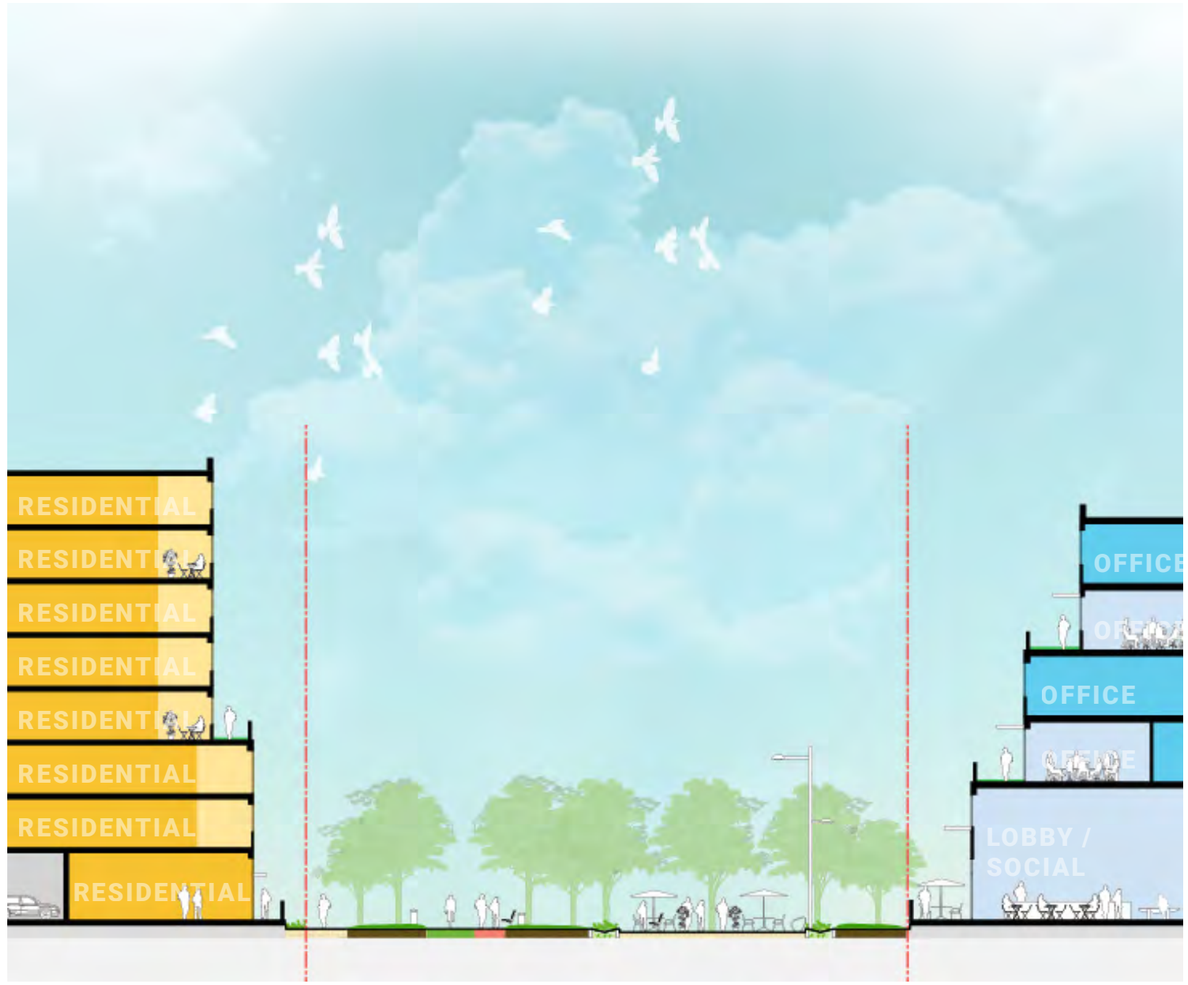
Key Map

Open Spaces

The interconnected open space network is central to the Master Plan, and buildings and their frontages play a key role in making sure that open spaces are comfortable, inclusive spaces for everyone while balancing the privacy and security needs of building occupants. Buildings along open spaces will present steps and terraces to the open spaces, with integrated landscape elements that relate to the open space areas they front upon and help buffer and separate private from public spaces.

Edge Type (*see Chapter 3*)	Open Space
Frontage Type (*see Chapter 4*)	Open Space
Expected Uses	Active Use Residential Office
Building to Building Width	100'+

Figure D2.5.6 OPEN SPACES CONCEPTUAL URBAN DESIGN CHARACTER



Key Map

Social Spine

The new additional focal point for activation within the Master Plan is the Social Spine, an intimate pedestrian-only mid-block break lined with restaurants, shops and services that weaves from Shorebird Way to the intersection of N. Shoreline Boulevard and Charleston Road. Built form will ensure a human scale and access to light and sky, while the frontage design and improvements within the mid-block connection will facilitate a varied and lively set of active uses spilling out into the space.

Edge Type (*see Chapter 3*)	Mid-Block
Frontage Type (*see Chapter 4*)	Social Spine (Active Use)
Expected Uses	Active Use
	Residential, Hotel
	Office
Building to Building Width	40-60’

Figure D2.5.7 SOCIAL SPINE CONCEPTUAL URBAN DESIGN CHARACTER

Key Map

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CHAPTER 3

Built Form

NBPP Design Principles

This chapter addresses the Master Plan's approach to the following North Bayshore Precise Plan urban design principles:

#3. Orient buildings towards streets and shared open spaces

#4. Vary building massing to shape space and enhance building and neighborhood character

#5. Integrate frontage design and ground floor uses to generate active ground floor frontages

#6. Articulate building facades to create human-scale buildings

#7. Distinguish North Bayshore as a unique, urban district through architecture and building design

#8. Design corner buildings to emphasize an entry, shape a public space, or provide a unique building image

#9. Create high-quality on-site open space

D3.1. Overview

Providing unifying built form character elements for the Master Plan area is crucial to realizing the NBPP's vision for an innovative and mixed-use new district that seamlessly weaves together new, more urban development with existing surrounding developed and natural areas.

This chapter builds from the overarching Edge Framework established in *Chapter 2 Place Framework* and provides more specific site planning, massing, and articulation guidance for future development blocks to guide this NBPP-envisioned transformation.

At the same time, this guidance aims to maintain flexibility for future individual projects to contribute towards a diverse and pedestrian-oriented urban realm by encouraging a variety of building architecture and human-scale design techniques, especially at the base of buildings.

Built Form Typologies

The typologies covered in this chapter focus on the Master Plan's two primary land uses: office buildings and residential buildings. These are the predominant building types in the Master Plan and will have the greatest impact on the overall design character.

Hotel uses are included in the residential building category for the purposes of the Design Objectives, given the many shared design principles between hotel and multi-family residential developments. Other uses, such as parking and district systems should refer to the general, non-use-specific controls established in this document, as well as other relevant controls established by the Master Plan and NBPP.

Frontage zones (generally the first 40 feet of a building) are highlighted on each built form typology. While this Built Form chapter focuses on the overall relationship of the frontage zone within the larger building mass (i.e. building interface), specific design guidance for frontage zones is provided in *Chapter 4 Frontages*.

Figure D3.1.1 RESIDENTIAL BUILDING MASSING CONTROLS

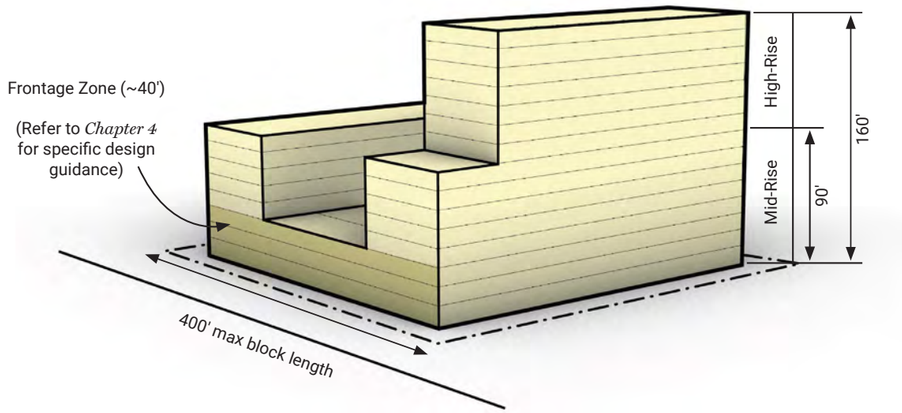
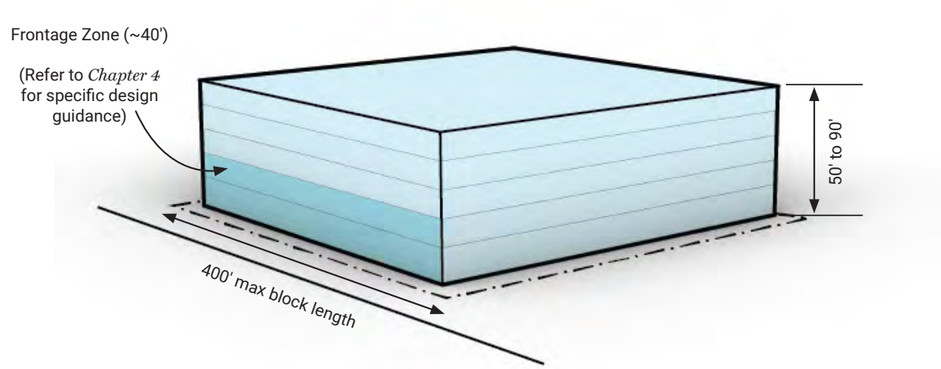
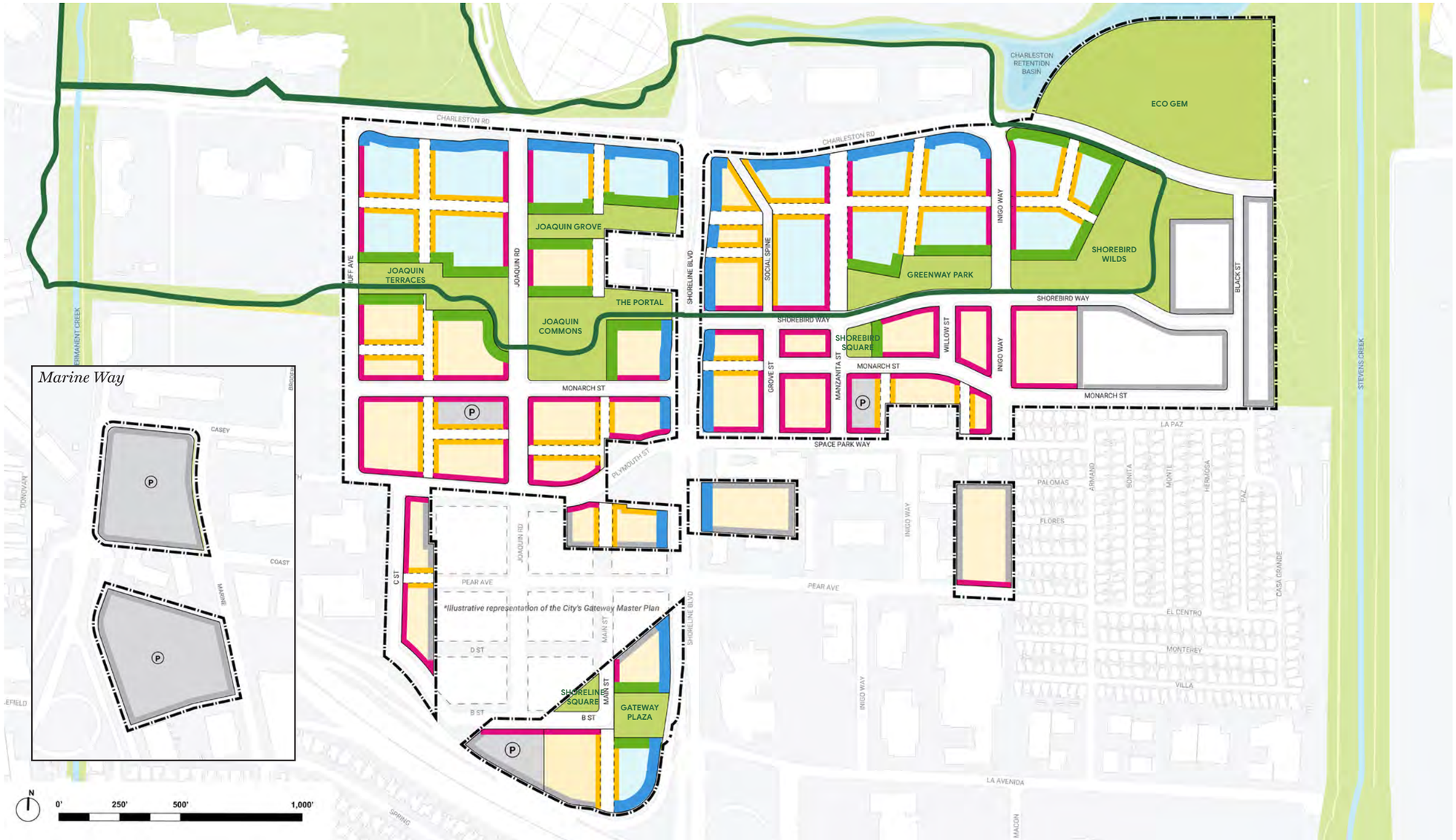


Figure D3.1.2 OFFICE BUILDING MASSING CONTROLS



Plan D3.1.1 BUILT FORM FRAMEWORK



Key

- LARGE STREET EDGE
- TYPICAL NEIGHBORHOOD STREET EDGE
- OPEN SPACE EDGE
- MID-BLOCK EDGE
- NORTH BAYSHORE PRECISE PLAN GUIDING EDGE
- OFFICE GROUND FLOOR
- RESIDENTIAL GROUND FLOOR*
- PARKING GROUND FLOOR
- OTHER BUILDINGS (PARKING, COMMUNITY, OR UTILITIES)
- GREEN LOOP
- INDICATIVE LOCATION OF MID-BLOCK BREAKS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

* Residential use includes hotel for the purposes of the Design Objectives given that hotel buildings share many design principles with multi-family residential

Note:

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

Future development on the Shoreline Amphitheatre parking site (Parking Block SA-BP-1) shall conform with relevant design guidance established by the City's Public Facility Zone and per the Master Plan project conditions.

D3.2. Built Form Framework

Built form guidance is based upon the edge types established in *Chapter 2 Place Framework*. Edge types apply across office and residential uses, helping to ensure cohesive building expression across a single street or open space with multiple building uses.

LARGE STREET EDGES

Boulevard-style streets with greater traffic volumes and speeds, where larger scale massing moves and design expressions establish a unique, urban district character and create a sense of arrival.

TYPICAL NEIGHBORHOOD STREET EDGES

Neighborhood-scale streets with clearly defined building bases to establish human-scale across blocks with different building uses.

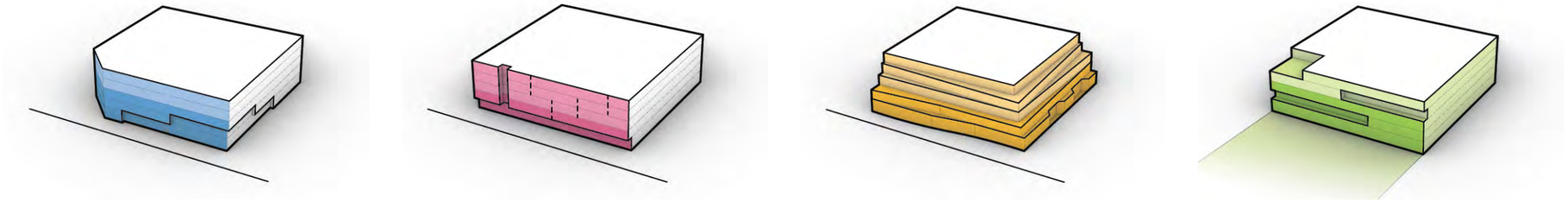
MID-BLOCK EDGES

More intimate (primarily non-vehicular) connections between neighborhood streets and open spaces that increase the overall walkability of the district.

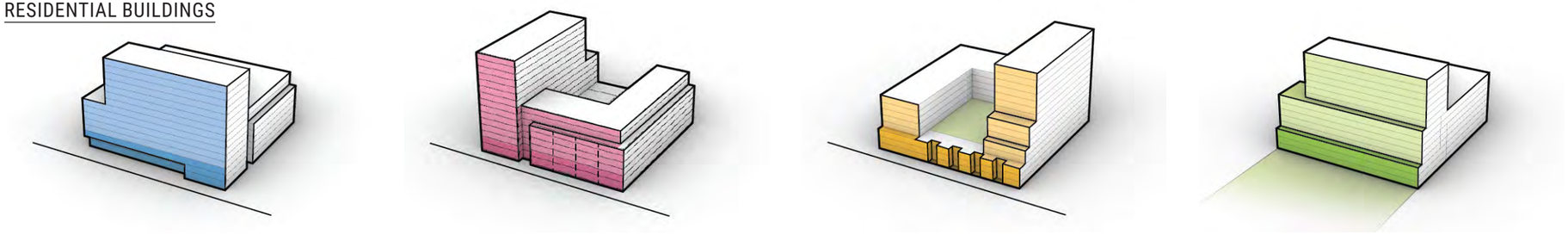
OPEN SPACE EDGES

The intersection of buildings and open spaces, where contextual building massing and articulation and wildlife-friendly design establishes a unique, and nature-driven sense of place.

OFFICE BUILDINGS



RESIDENTIAL BUILDINGS



Built Form Design Objectives

- Introduce clear, recognizable forms using a variety of massing, architectural design, and material strategies.
- Promote a human scale of design through a combination of both major and minor changes in design expression.
- Establish a well-defined street wall that creates continuity across multiple buildings and blocks.
- Use changes in design expression to increase visual interest and reinforce a human scale of design for both high- and mid-rise residential development.
- Establish a context-responsive design language where building forms and materials take cues from its natural surroundings.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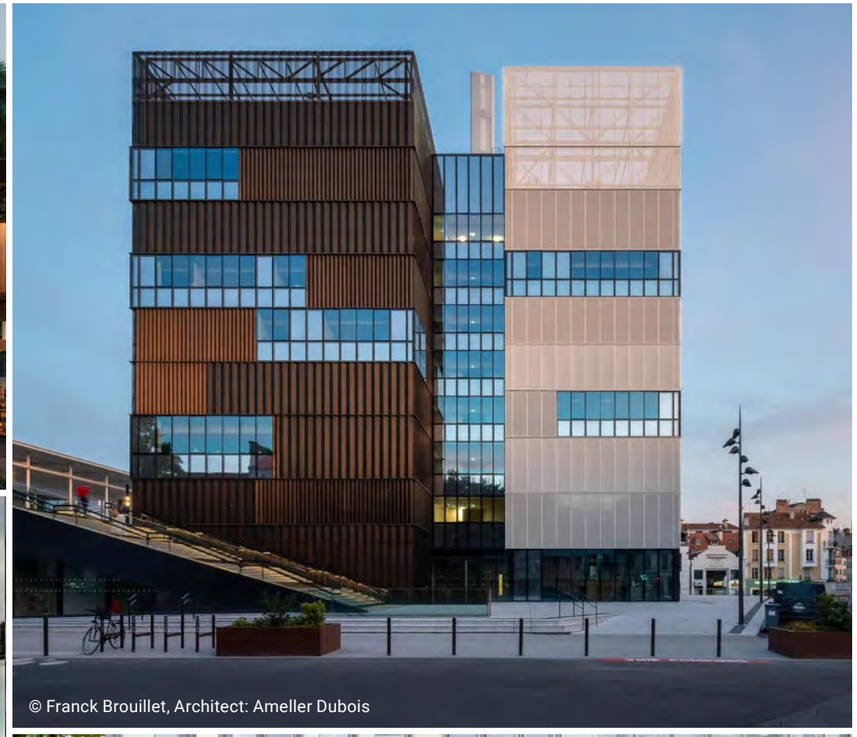
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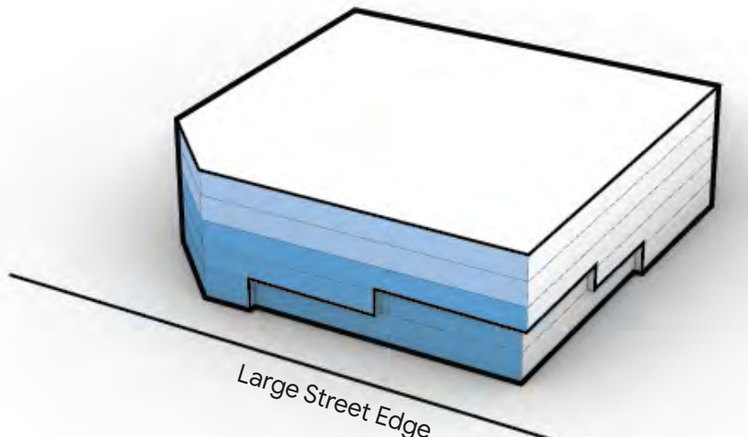
© Henning Larsen

Large Street Edges

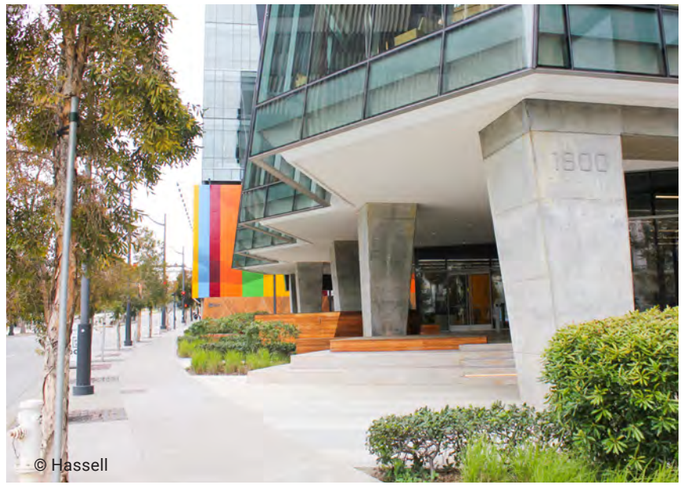
LARGE STREET OFFICE STRATEGIES

1. Incorporate longer horizontal building expressions, appropriately scaled to a multi-modal transit boulevard with faster travel speeds.
2. Employ large-scale massing moves that create more pedestrian space at the street at important moments such as building entries and mid-block break openings.
3. Provide material, articulation and/or change in massing at the street level to promote a visually interesting and comfortable pedestrian environment.
4. Use climate responsive facade elements to create dynamic facades that are legible at pedestrian, bicycle, and vehicle speeds of travel.



Key Map

Longer horizontal building expressions achieved using setbacks and stepbacks that are visually engaging at both pedestrian and vehicle speeds of travel

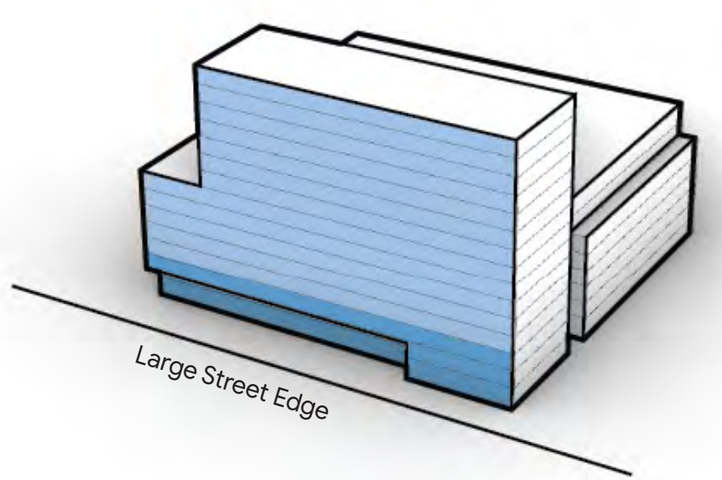


Ground floor setback that creates additional space for pedestrian circulation and seating at the building entry with unique material expressions and/or public art

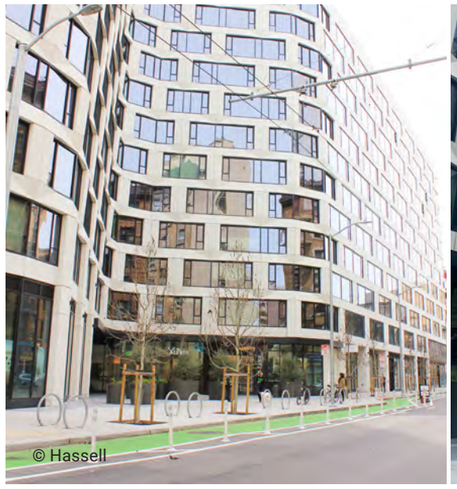
A double-height, recessed ground floor reduces the apparent bulk of the building at street level and creates a shaded/sheltered path of travel for pedestrians

LARGE STREET RESIDENTIAL STRATEGIES

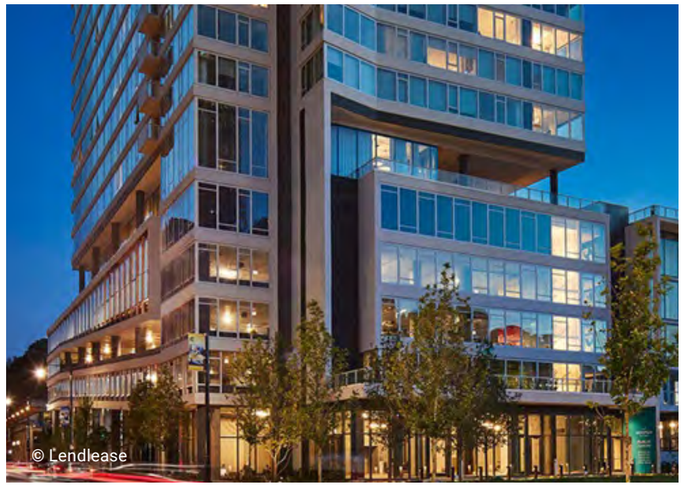
1. Design high-rise elements to be fully expressed, especially at narrow faces of buildings and at street corners.
2. Provide Material, articulation, and/or change in massing at the base of the building to receive mid- or high-rise massing above.
3. Incorporate changes in plan along the length of the building, to create an interesting and varied pedestrian experience.
4. Use balconies and climate responsive shading facade elements to create dynamic facades.
5. Apply facade articulation at the scale of the residential unit.



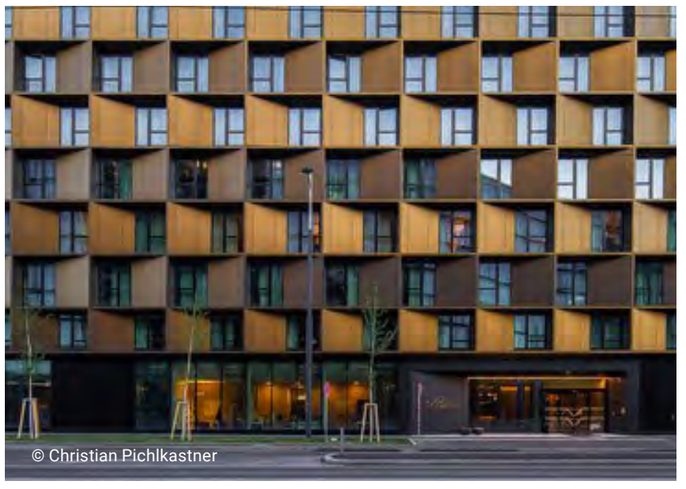
Key Map



A subtle curve in the building plan along the length of the facade creates an inlet at the street level for seating, landscape, and public art



Building high-rise element fully expressed at the street corner

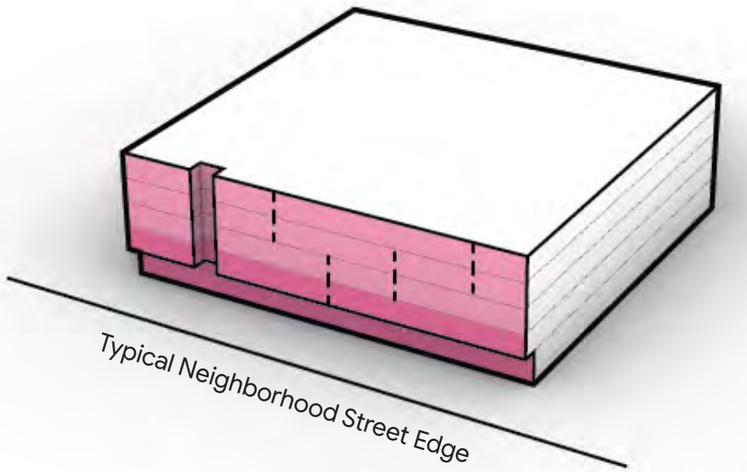


Individual units clearly defined with changes in material and angled projections along the length of the building facade

Typical Neighborhood Street Edges

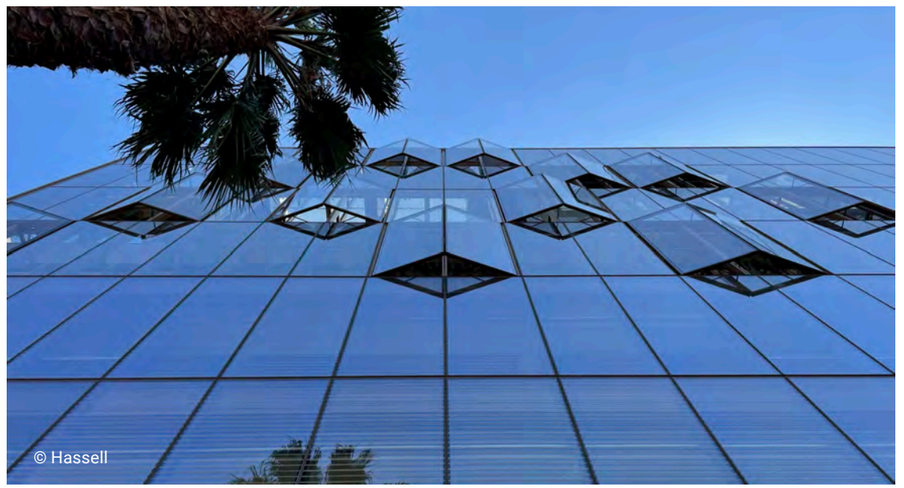
TYPICAL NEIGHBORHOOD STREET OFFICE STRATEGIES

1. Design overall building masses that create a consistent street section.
2. Introduce minor massing breaks that help break down the overall scale of the building into smaller volumes.
3. Incorporate a clear massing move that establishes an engaging street level frontage in contrast with the massing of the building above.
4. Where appropriate to the ground floor use, provide additional setbacks to create transitional space at the street.
5. Incorporate subtle changes in articulation over building elevations that add variety within larger massing moves.



Key Map

A pattern of recessions help to break the building down into smaller volumes, while subtle shifts in the window articulation add variety to the overall facade

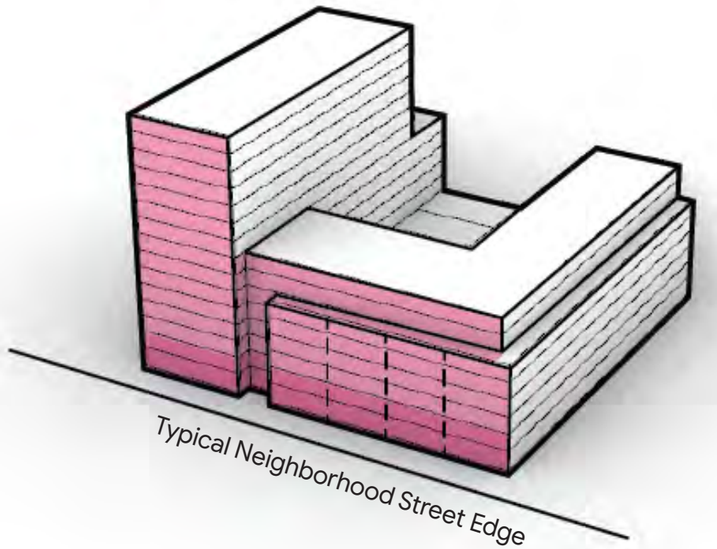


A pattern of subtle window projections adds visual interest to the facade, particularly from the pedestrian's perspective at street level

A recessed ground floor provides a clear massing move that engages the street and creates definition from the building above

TYPICAL NEIGHBORHOOD STREET RESIDENTIAL STRATEGIES

1. Design overall building masses that create a consistent street section.
2. Introduce minor massing breaks that separate high-rise from mid-rise elements, and break down the building into masses that are smaller than the length of the block.
3. Use stepbacks or other reductions in mass of upper floors to emphasize lower building heights and reduce impacts of more closely spaced high-rise elements.
4. Design high-rise elements to be fully expressed at the narrow faces of buildings to create variety among taller and shorter massing volumes.
5. Design frontages that respond to ground floor uses, such as larger scale massing moves for lobbies and active uses, and increased density of massing moves at residential addresses.
6. Where appropriate to the ground floor use, set back building bases to create additional transitional space for lobbies, unit entries, landscaping, and privacy for residential units at street level.
7. Apply consistent articulation at the scale of the unit to add variety within larger massing moves.



Key Map

Building high-rise element located along the narrower face of the building

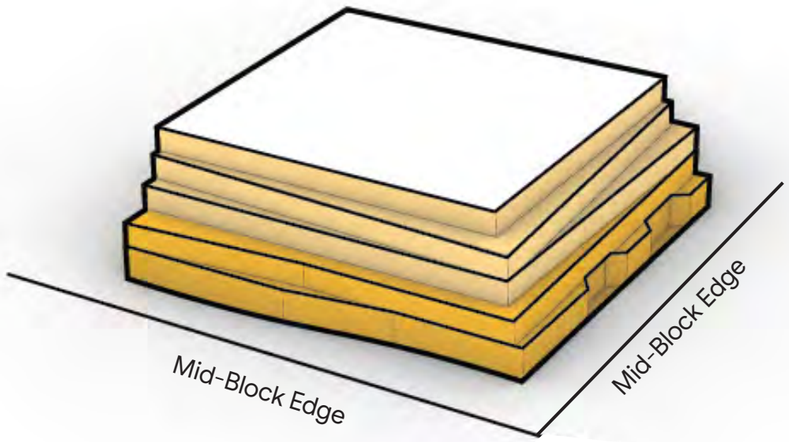
A recessed building base with screening landscape elements increases privacy for the ground floor residential units

Massing break used to separate the high-rise from the mid-rise building forms, breaking down the overall building into two distinct forms

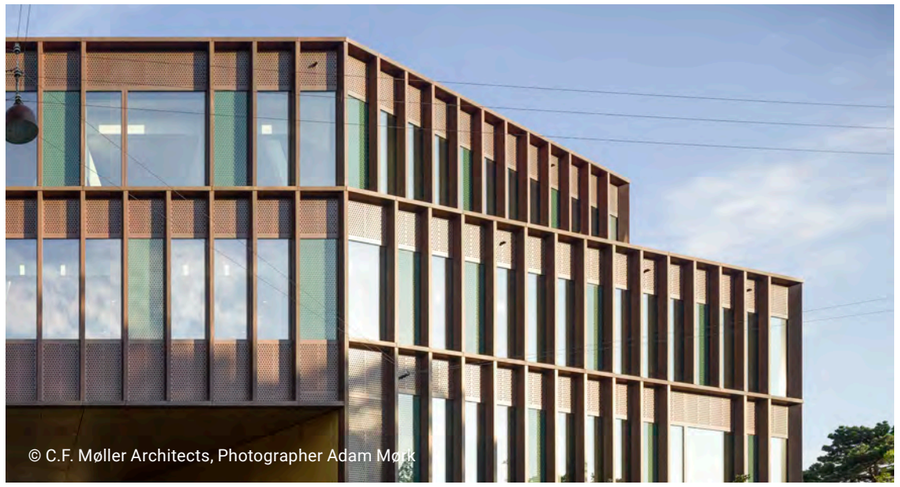
Mid-Block Edges

MID-BLOCK OFFICE STRATEGIES

1. Break building masses down in plan and section to create an engaging pedestrian-scaled experience and allow sufficient light and air into the mid-block breaks.
2. Integrate additional setback space into overall massing moves when appropriate for ground floor users, such as forecourts and spillout space.
3. Apply consistent articulation changes to reinforce the break down of the overall building mass.



Key Map



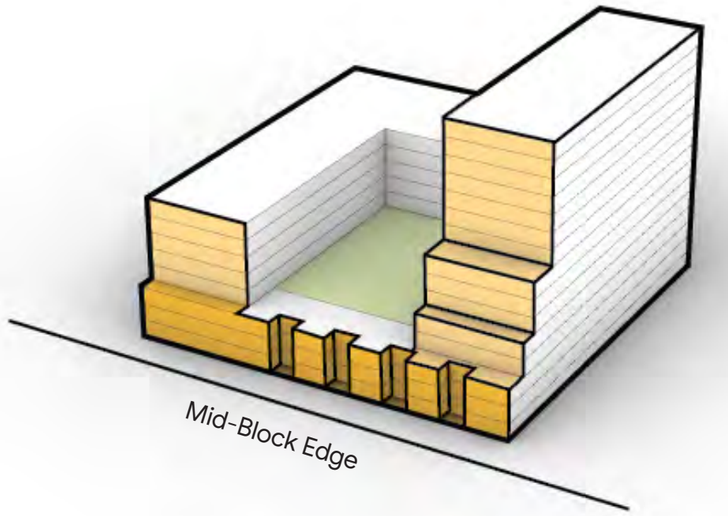
Shifts in plan and section between floors creates a more varied building form from the pedestrian perspective

Additional building setback at the ground floor provides extra spillout space for outdoor work stations and gathering areas

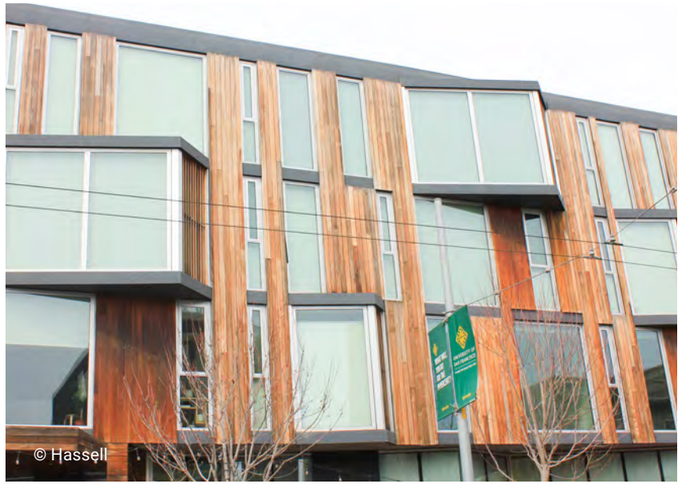
Consistent changes in facade depth and material help reinforce the breakdown of the overall building mass across the length of the facade

MID-BLOCK RESIDENTIAL STRATEGIES

1. Incorporate massing moves such as stepbacks above the 2- to 3-story base to ensure a pedestrian scale environment.
2. Break down the overall mass with frequent minor massing breaks and/or massing expressions at the scale of the unit or smaller.
3. Provide articulation within massing moves at the scale of the room or smaller.
4. Where appropriate for ground floor uses, incorporate stoops, entries, and bays into the setbacks, while allowing for sufficient space for privacy and delineation of public and private space.



Key Map



Minor massing expressions in the form of projected bays along the length of the facade articulate individual rooms

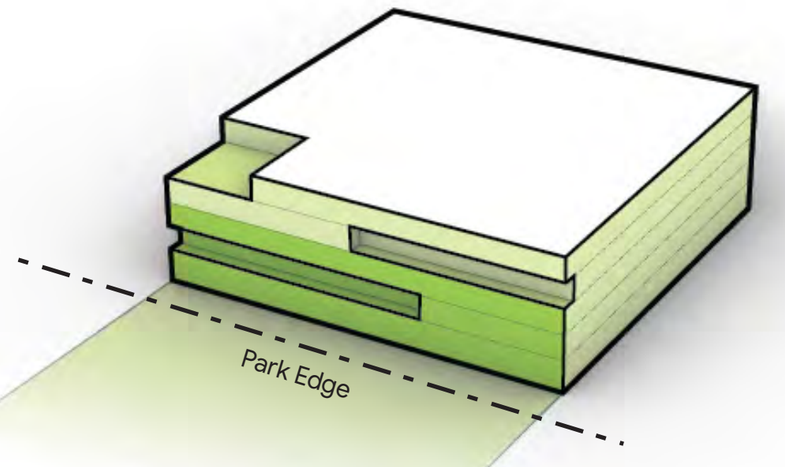
Minor massing breaks help to distinguish the individual units at the ground level

A landscaped stepback above the 2-story base reduces the apparent mass of the building from the pedestrian's view and increases the diversity of the streetscape

Open Space Edges

OPEN SPACE OFFICE STRATEGIES

1. Incorporate larger scale horizontal massing moves.
2. Integrate upper level outdoor spaces into the building's overall massing strategy.
3. Use setbacks to provide transitional space and privacy buffers between private ground level uses and public realm.
4. Design high-quality facades that are legible across the length of the adjacent open spaces, and contribute to the natural setting.



Key Map

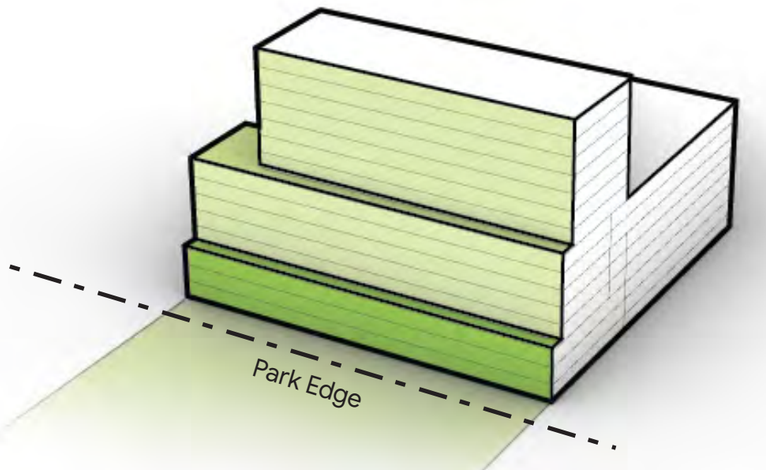
A planted stepback above the building base serves as a large scale horizontal massing move along the adjacent open space and contributes to the natural surroundings

Horizontal massing moves that are visible across the length of the adjacent open space are achieved via setbacks and stepbacks

Upper level terraces offer additional plantable area for the building while also serving to define the building's overall massing strategy

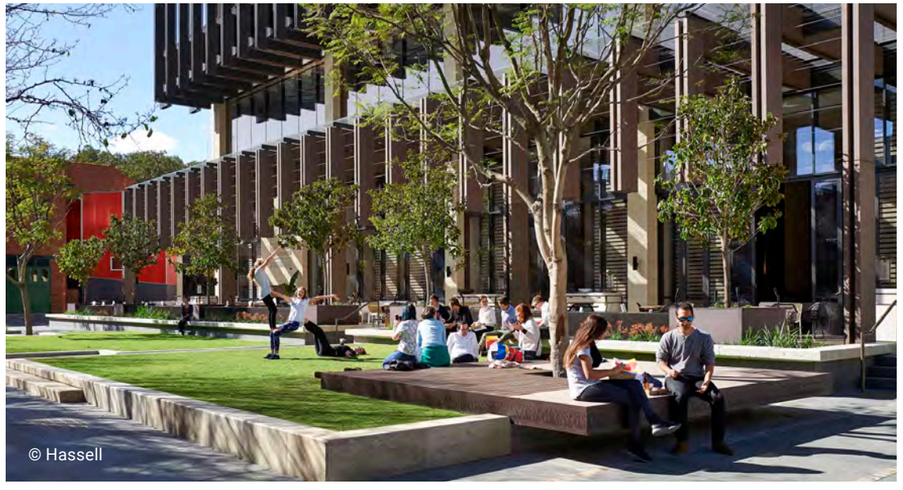
OPEN SPACE RESIDENTIAL STRATEGIES

1. Incorporate larger scale horizontal massing moves.
2. Hold high-rise elements back from the open spaces to ensure access to daylight and thermal comfort.
3. Integrate private and shared open spaces such as balconies and terraces into the building's overall massing strategy.
4. Use setbacks to create sufficient buffers between private residential uses and the adjacent public realm.
5. Consider the design of the adjacent open spaces in the design of the building's integrated landscape strategy.
6. Articulate smaller building elements, such as units and rooms, as subordinate to the overall building massing volume (i.e. no pixelated buildings).



Key Map

A landscaped buffer along the edge of the setback provides privacy screening for the ground floor units while still maintaining a connection between the units and the adjacent public open space



A horizontal break and step back separates the building's base from its high-rise element above, allowing for better solar access for the adjacent open space

Private balconies overlooking the public open space below

CHAPTER 4

Frontages

NBPP Design Principles

This chapter addresses the Master Plan's approach to the following NBPP urban design principles:

#2. Create high-quality public frontages

#3. Orient buildings towards streets and shared open spaces

#5. Integrate frontage design and ground floor uses to generate active ground floor frontages

#6. Articulate building facades to create human-scale buildings

#7. Distinguish North Bayshore as a unique, urban district through architecture and building design

D4.1. Overview

The following chapter provides frontage design guidance based on a building's respective edge type (described in *Chapter 3*) and its ground floor land use. This typological approach is meant to ensure an integrated and responsive design language across the entire Master Plan area, where the character of the frontage is directly informed by the inherent needs of the adjacent ground floor use and the street or open space type it fronts.

This section also illustrates how the urban design vision of the NBPP would be achieved for buildings fronting on open spaces and along the retail-focused Social Spine–two typical Master Plan conditions not previously envisioned by the NBPP. Refer to *Appendix E* of the *Implementation Plan f*or further guidance on park programming and design intent.

While the frontage typologies illustrated here are primarily focused on building entries and front-of-house programming, the strategies themselves are applicable to all portions of a building frontage, including back-of-house and non-active facades such as stairway exits, transformer rooms, loading docks, etc.

Frontage Types

Building frontage is defined as the space between the sidewalk or pedestrian zone and the building. The design guidance in this chapter is primarily concerned with the first forty vertical feet of a building, as this area has the greatest potential impact on the overall urban experience. Frontage strategies are provided for both street frontages and open space frontages, as illustrated in *Plan D4.1.1*. Street frontages include the Large Street, Typical Neighborhood Street, and Mid-Block Break Edges previously discussed in Chapters 2 and 3, and are broken down further by ground floor land use: residential, office, active use, and parking.

Frontage guidance for Open Space Edges covers residential, active use, and office uses. For the office use, two ground floor conditions are considered. 'Office Typical', as its name suggests, provides guidance for a more normal office building condition where a building entry meets a public pathway. 'Office Terrace', in contrast, illustrates a frontage condition where no direct physical access to the building from the adjacent open space is provided, but visual access is still maintained.

Setbacks

Setbacks are envisioned to play a variety of roles throughout the Master Plan, as illustrated by the different frontage types covered in this chapter. Per the NBPP, setbacks will range from highly active and pedestrian-accessible spaces, such as outdoor dining areas, social seating, stoops, and micromobility parking, to more passive or transitional spaces, where landscape and design elements are used to delineate between public and private realms and establish privacy from the adjacent street life for building users.

Design elements such as understory plantings and shade trees, stormwater planters, public art, and screening elements are encouraged within all setbacks to the extent feasible, and should be commensurate to the scale and design of the adjacent street or open space. Particular setback elements that are most appropriate for certain frontage types are described in the summary tables that accompany each street or open space type in the following chapter.

While this section focuses on guidance for the minimum setback condition established by the Master Plan, some situations may warrant the building to provide an additional setback, e.g. restaurants with outdoor dining, primary building lobbies, entries to secure zones, etc.

Figure D4.1.1 STREET FRONTAGE ZONES

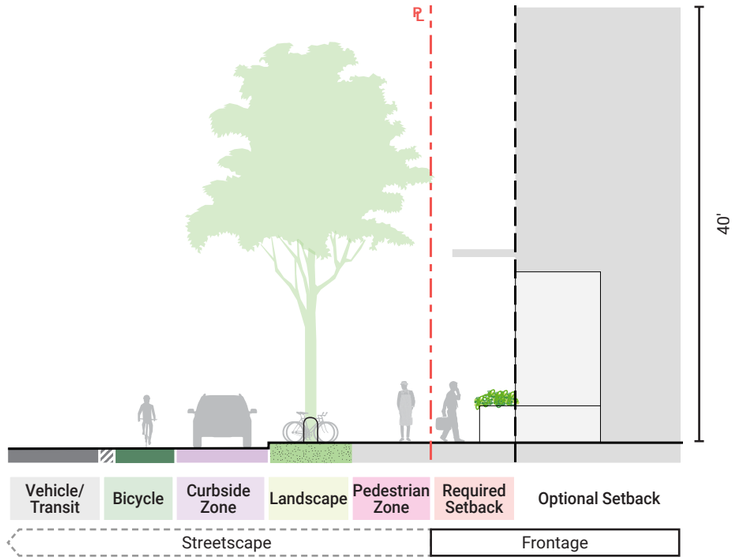
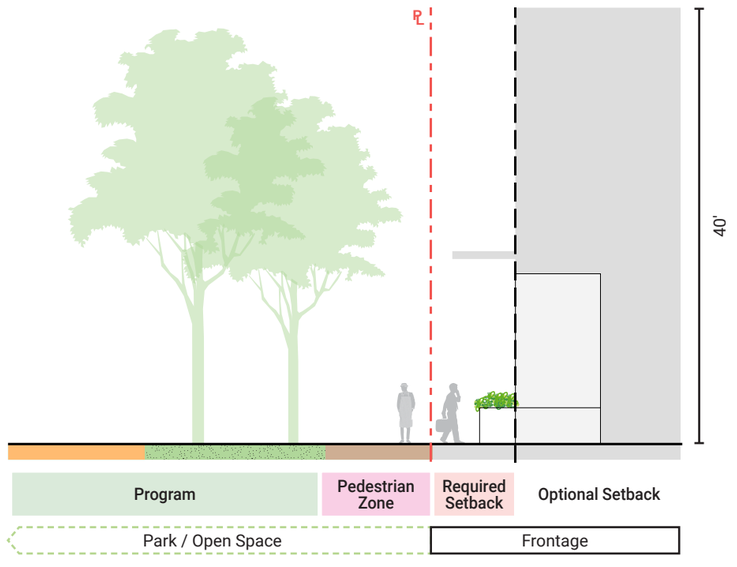
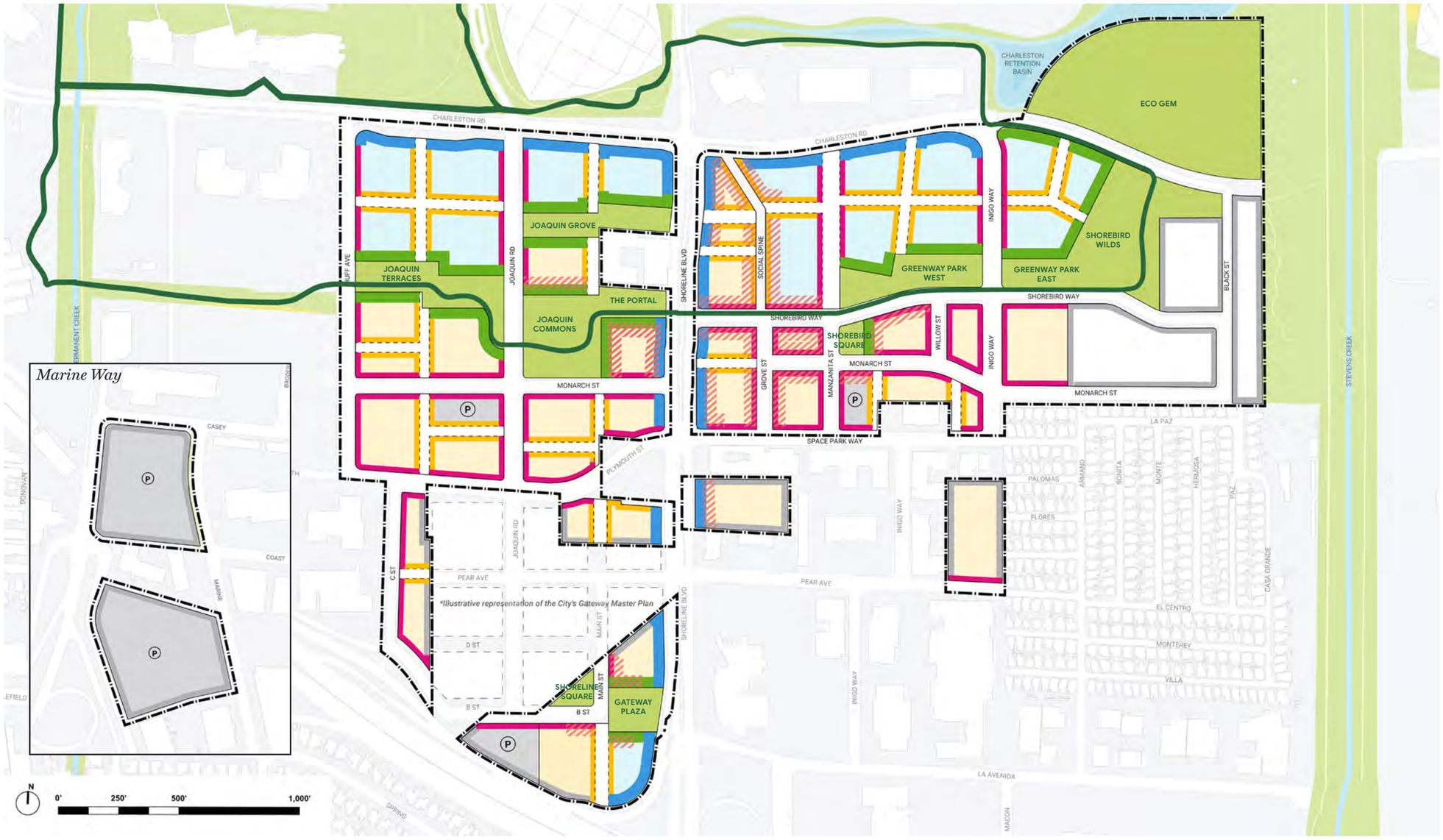


Figure D4.1.2 OPEN SPACE FRONTAGE ZONES



Plan D4.1.1 FRONTAGE FRAMEWORK PLAN



Key

- LARGE STREET EDGE
- OPEN SPACE EDGE
- MEDIUM STREET EDGE
- MID-BLOCK EDGE
- NORTH BAYSHORE PRECISE PLAN GUIDING EDGE
- OFFICE GROUND FLOOR
- RESIDENTIAL GROUND FLOOR*
- ACTIVE USE GROUND FLOOR
- PARKING GROUND FLOOR
- OTHER USES (HOTEL, UTILITIES)
- GREEN LOOP
- INDICATIVE LOCATION OF MID-BLOCK BREAKS
- CONCEPTUAL DEVELOPMENT BLOCKS
- OPEN SPACE
- PROJECT AREA

* Residential use includes hotel for the purposes of the Design Objectives given that hotel buildings share many design principles with multi-family residential

Note:

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

Future development on the Shoreline Amphitheatre parking site (Parking Block SA-BP-1) shall conform with relevant design guidance established by the City's Public Facility Zone and per the Master Plan project conditions.

D4.2. Large Street

Key Map

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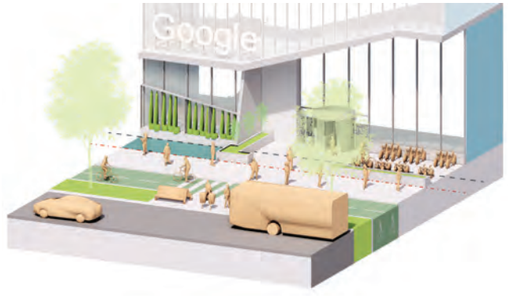
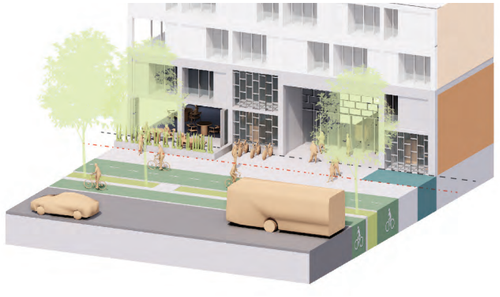
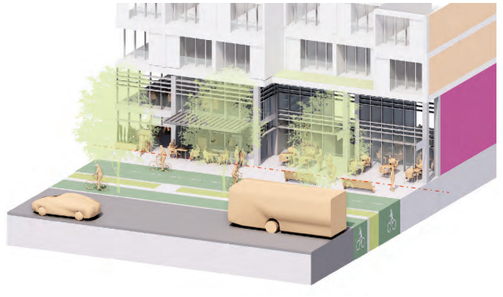
Table D4.2.1 LARGE STREET FRONTAGE SUMMARY (CHARLESTON AND SHORELINE)







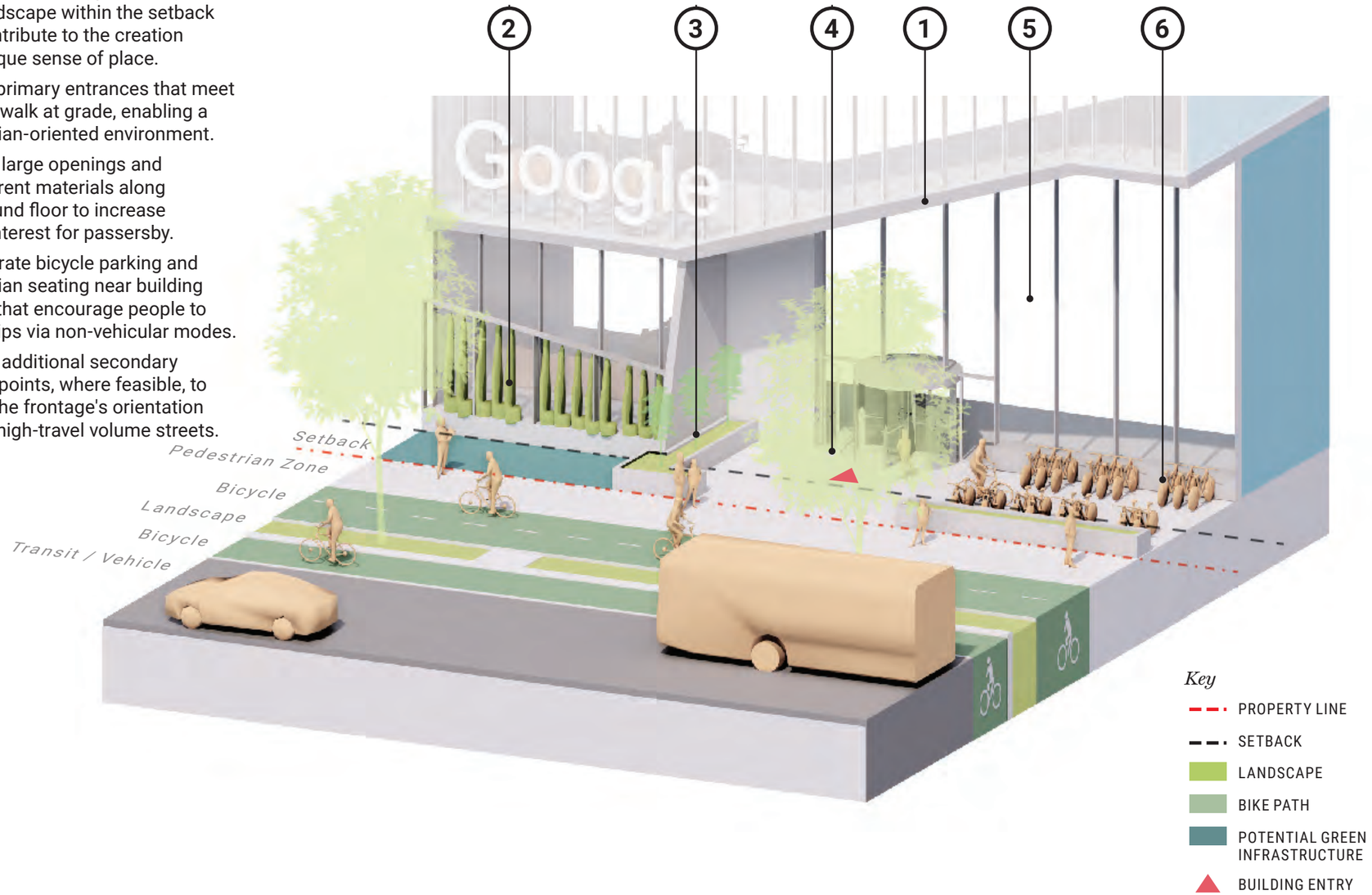
LARGE STREET	OFFICE	RESIDENTIAL	ACTIVE USE	PARKING
Minimum Setback	10 ft.	10 ft.	0 ft.	10 ft.
Programmatic Uses	Primary building entries/lobbies Office	Primary building entries/lobbies Residential amenity space	Ground floor retail space Food and beverage with outdoor dining	Parking Active, residential, or office uses wrapping where feasible
Setback Element Examples	Micro-mobility parking and amenities (particularly near transit stops) Pedestrian seating and amenities Wayfinding elements Public art Landscape buffer Green infrastructure	Micro-mobility parking and amenities (particularly near transit stops) Pedestrian seating and amenities Public art Landscape buffer Green infrastructure	Micro-mobility parking and amenities (particularly near transit stops) Pedestrian seating and amenities Outdoor dining space Public art	Micro-mobility parking and amenities (particularly near transit stops) Pedestrian seating and amenities Wayfinding elements Landscape buffer Green infrastructure Public art
Building Element Examples	Vertical landscape features such as green walls Large, transparent openings that engage the street Awnings and shade structures Building signage	Transparent materials Vertical landscape features such as green walls Larger entry articulation	Larger shopfront windows Transparent materials	Integrated screening strategies such as green walls, murals, and dynamic material applications

Large Street Office

Serving as the primary public faces for the future office buildings and located closest to transit stops along higher volume traffic streets, the design of these frontages should be commensurate to the scale of the street, provide for pedestrian and bicyclist comfort, and maximize visibility from nearby transit stops and major pedestrian intersections to support wayfinding.

STRATEGIES

1. Employ bolder building elements and larger massing moves that indicate points of entry.
2. Integrate landscape elements and public art with overall building frontage design and commensurate in scale to the size of the street.
3. Provide vestibules, public art, and landscape within the setback that contribute to the creation of a unique sense of place.
4. Locate primary entrances that meet the sidewalk at grade, enabling a pedestrian-oriented environment.
5. Provide large openings and transparent materials along the ground floor to increase visual interest for passersby.
6. Incorporate bicycle parking and pedestrian seating near building entries that encourage people to make trips via non-vehicular modes.
7. Provide additional secondary access points, where feasible, to reflect the frontage's orientation toward high-travel volume streets.



Key Map

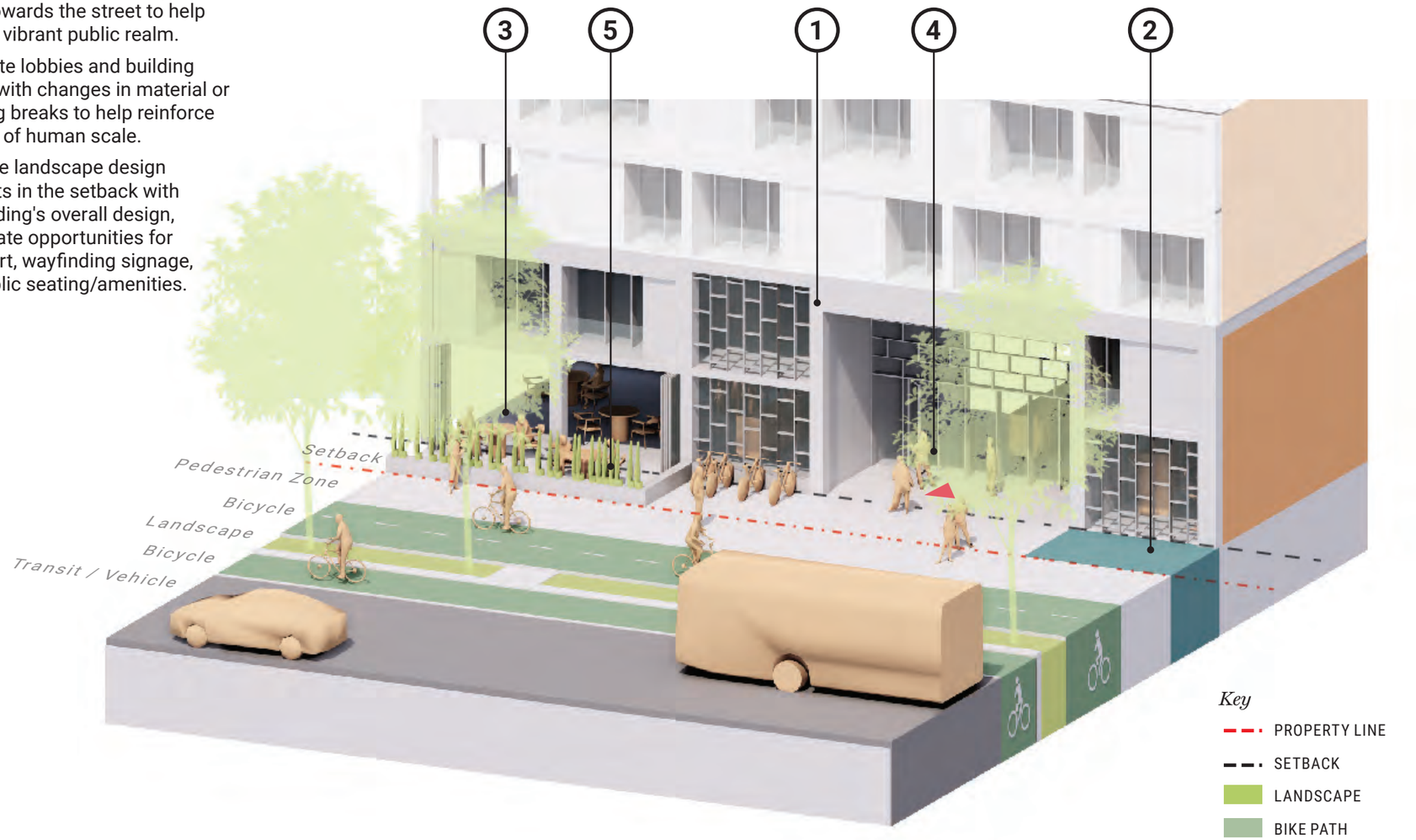
Large Street Residential

Similar to office buildings on large streets, the design of residential frontages should clearly read as the primary face of the building, with full massing expressions coming down to street level at the setback to ensure legibility for pedestrians and vehicle passengers alike, while also exhibiting a recognizable residential character.

STRATEGIES

1. Design buildings with fully expressed massing at the street to improve wayfinding for pedestrians and establish a distinct urban character.
2. Integrate stormwater infrastructure design elements within the setback to both increase ecological performance and soften a building's facade.
3. Orient ground floor amenity areas towards the street to help foster a vibrant public realm.
4. Articulate lobbies and building entries with changes in material or massing breaks to help reinforce a sense of human scale.
5. Integrate landscape design elements in the setback with the building's overall design, and create opportunities for public art, wayfinding signage, and public seating/amenities.

Key Map



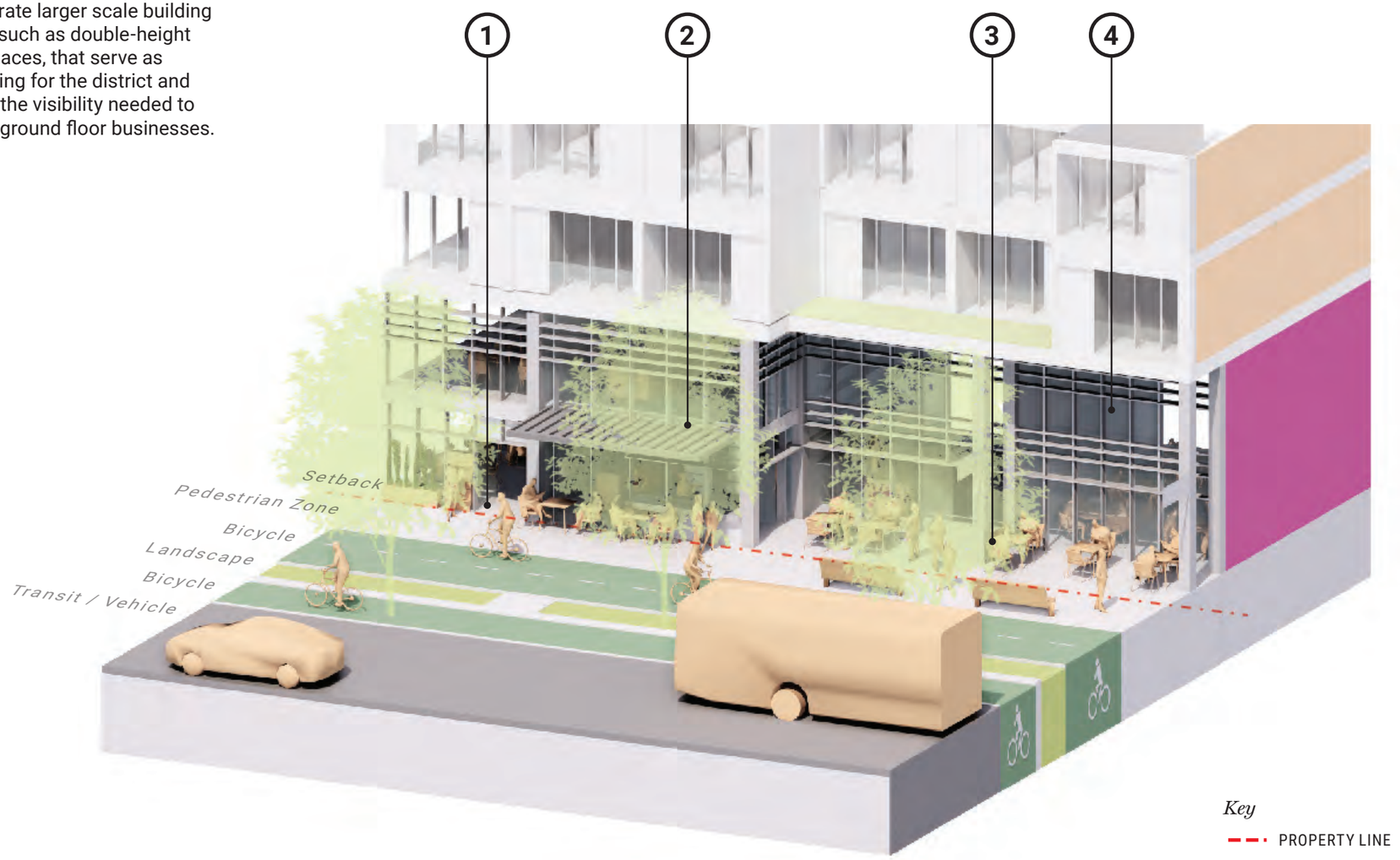
Large Street Active Use

To maximize street activity and vibrancy, active use frontages are encouraged to build up to the property line. Where appropriate to the ground floor use, the ground floor may set back further to provide ample space for outdoor dining or other forms of social/gathering space.

STRATEGIES

1. Where necessary, use clear transitions between the public sidewalk and setbacks to ensure a legible streetscape environment for all users.
2. Provide pedestrian-scale awnings and signage elements that reinforce the human scale.
3. Where appropriate to the ground floor use, incorporate outdoor dining and seating areas in setbacks to bring vitality and diversity to the street scene.
4. Incorporate larger scale building moves, such as double-height retail spaces, that serve as wayfinding for the district and provide the visibility needed to sustain ground floor businesses.

Key Map



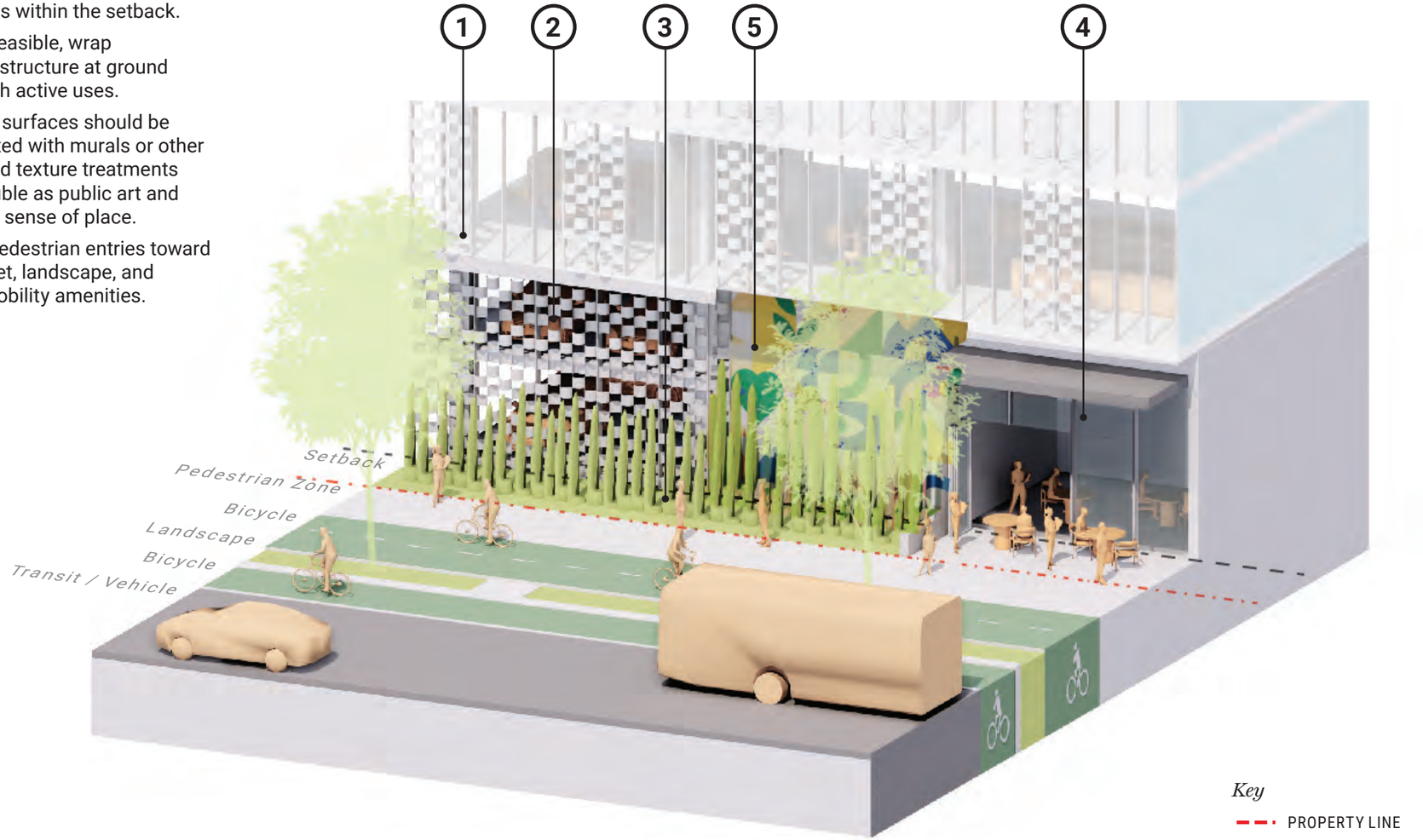
Large Street Parking

While no standalone parking structures are proposed along large streets and parking access is prohibited by the NBPP from Shoreline Boulevard and Charleston Road west of Shoreline Boulevard, some portions of large street building frontages may include visible (i.e. un-wrapped) parking uses.

In such scenarios, frontages should incorporate strategies to mimic the scale and design language of other frontage types and minimize the presence of parked vehicles for the passing pedestrian.

STRATEGIES

1. Design the building base at a consistent scale with surrounding building types to create a more seamless transition between parking and non-parking uses.
2. Use visually interesting facade treatments that double as both screening of the interior vehicle space and create a visually interesting facade experience for passing pedestrians.
3. Integrate robust landscape elements within the setback.
4. Where feasible, wrap parking structure at ground level with active uses.
5. Opaque surfaces should be articulated with murals or other color and texture treatments that double as public art and create a sense of place.
6. Orient pedestrian entries toward the street, landscape, and micromobility amenities.



Key Map

D4.3. Typical Neighborhood Street

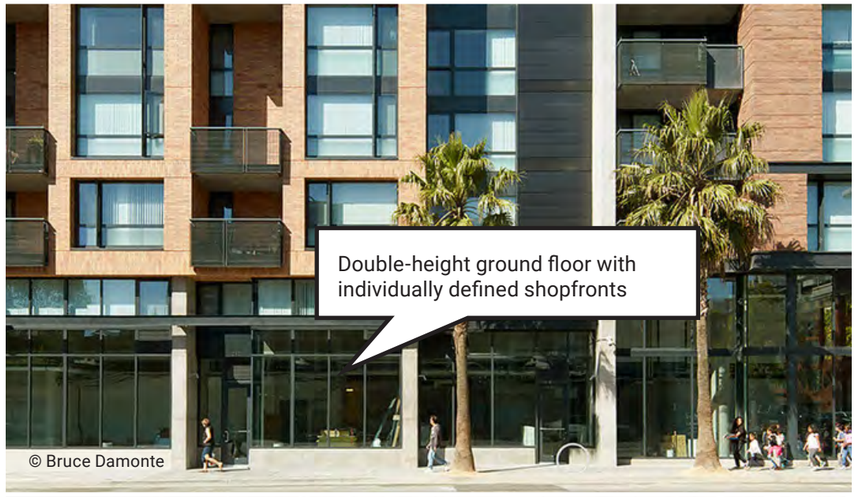


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Table D4.3.1 TYPICAL NEIGHBORHOOD STREET FRONTAGE SUMMARY

TYPICAL NEIGHBORHOOD STREET	OFFICE	RESIDENTIAL	ACTIVE USE	PARKING
Minimum Setback	6 - 10 ft.	6 - 10 ft.	0 ft.	6 - 10 ft.
Programmatic Uses	Primary building entries/lobbies Secondary building entries (as feasible) Office Garage/service entries	Primary and secondary building entries/lobbies Ground floor units Residential amenity space Garage/Service entries	Ground floor retail space Food and beverage with outdoor dining	Parking and vehicle entries Active, residential, or office uses wrapping where feasible
Setback Element Examples	Micro-mobility parking and amenities Pedestrian seating and amenities Wayfinding elements Landscape buffer Green infrastructure	Micro-mobility parking and amenities Pedestrian seating and amenities Landscape buffer Green infrastructure	Micro-mobility parking and amenities Pedestrian seating and amenities Outdoor dining space	Micro-mobility parking and amenities Pedestrian seating and amenities Wayfinding elements Landscape buffer Green infrastructure
Building Element Examples	Vertical landscape features such as green walls Large, transparent openings that engage the street Awnings and shade structures	Stoops and individual unit entries Shared entries Awnings	Low walls and awnings Larger shopfront windows Transparent materials	Integrated screening strategies such as green walls, murals, and dynamic material applications

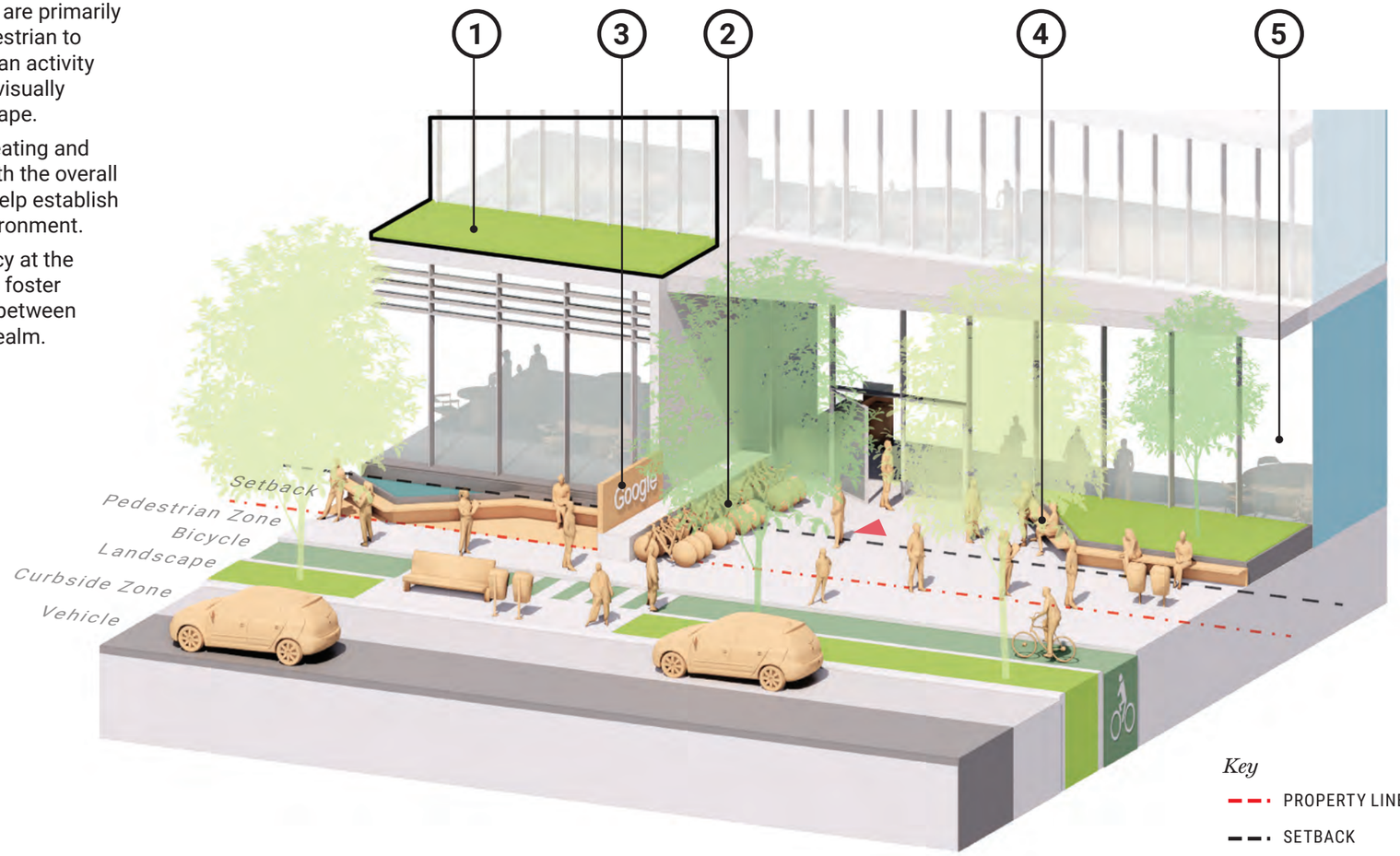
Typical Neighborhood Street Office

Often the secondary face of a building that is less visible from the edge of the Master Plan, these frontages are intended to convey a more "neighborhood" scale of design with massing moves and frontage design elements that are smaller in scale than their "large street" counterparts. Use of stepbacks is encouraged to help reduce the overall building massing along these narrower streets.

STRATEGIES

1. Express the building base with stepbacks and high-quality materials and detailing to help create a human-scale street experience.
2. Provide micromobility parking, and rideshare pick-up/drop-off areas near building entries to foster a multi-modal environment.
3. Integrate signage, awnings, and street furniture that are primarily oriented to the pedestrian to encourage pedestrian activity and enable a more visually interesting streetscape.
4. Integrate shaded seating and landscape areas with the overall building design to help establish a human-scale environment.
5. Provide transparency at the ground floor to help foster visual connectivity between private and public realm.

Key Map



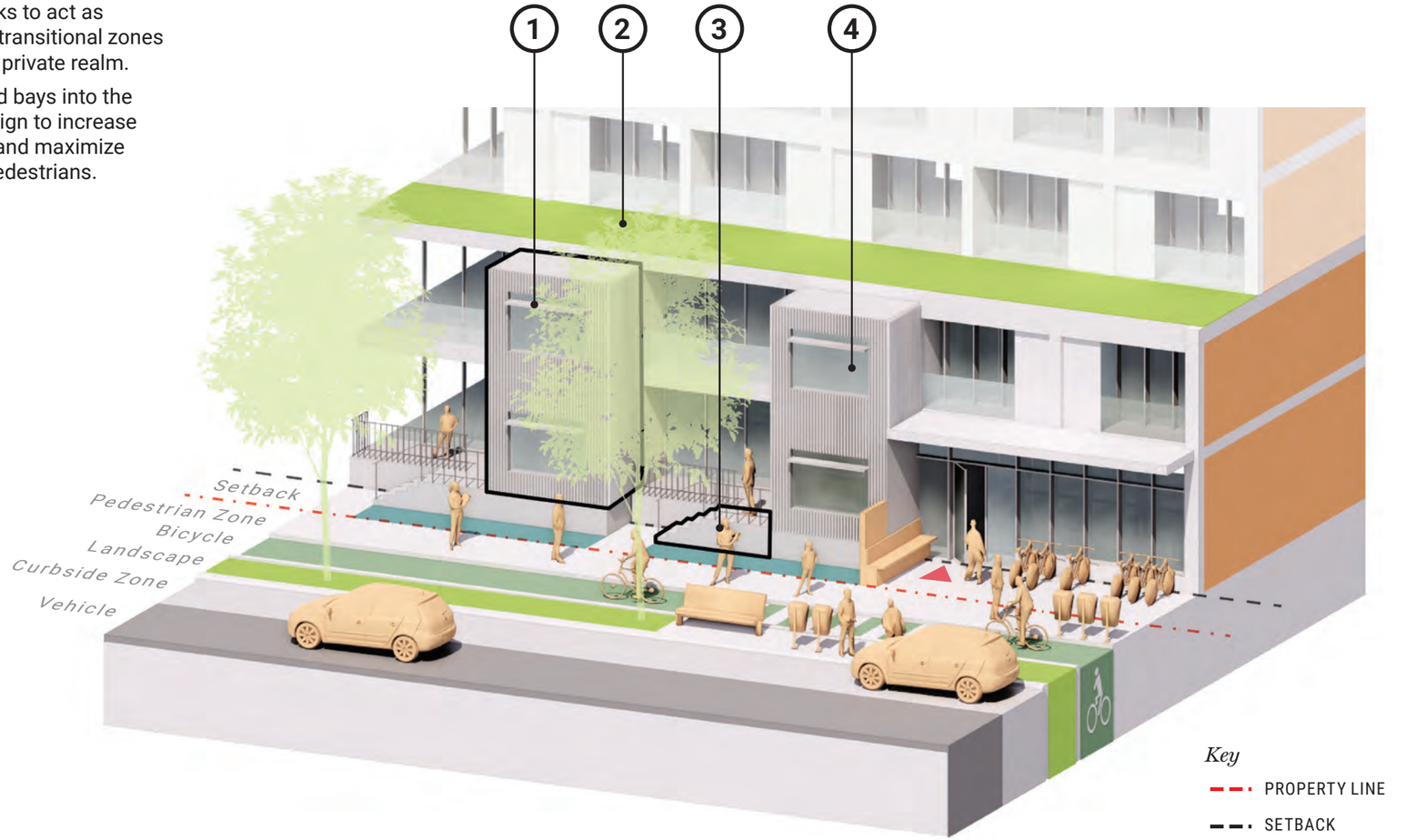
Typical Neighborhood Street Residential

Whereas large street residential frontages prioritize shared building entries, for typical neighborhood streets a more varied and intimate frontage character is envisioned where both shared and individual unit entries with stoops and terraces are encouraged. Individual unit entries, combined with setbacks and stepbacks help to establish a human-scale environment for residential buildings along these smaller street types.

STRATEGIES

1. Incorporate a more articulated and sculpted base, with high-quality materials and detailing, to increase visual interest and pedestrian comfort at street level.
2. Use setbacks and stepbacks to break down the building scale and reinforce the human scale, and provide space for streetscape amenities.
3. Incorporate stoops and landscape areas within setbacks to act as privacy buffers and transitional zones between public and private realm.
4. Integrate stoops and bays into the overall frontage design to increase 'eyes on the street' and maximize visual interest for pedestrians.

Key Map



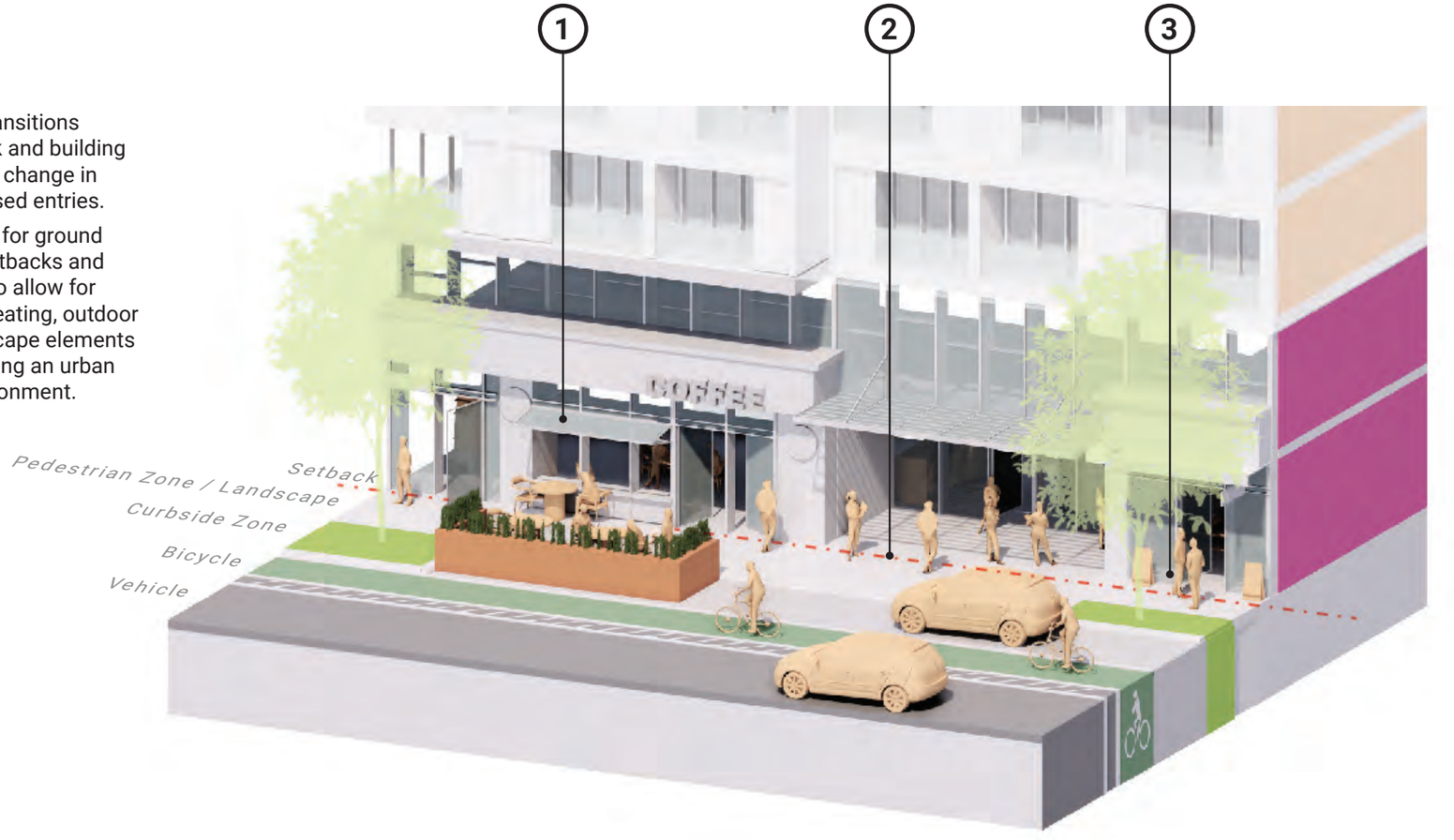
Typical Neighborhood Street Active Use

Similar to its "large street" counterpart, this frontage type assumes a 0-foot setback to foster a vibrant pedestrian experience. Where appropriate to the ground floor use, the ground floor may set back further to provide ample space for outdoor dining or other forms of social/gathering space. Planter extensions, micromobility amenities, and other landscape treatments may also contribute to the life of the street.

STRATEGIES

1. Provide well-defined shopfronts with large windows and high quality material and detailing to increase visual connections to the street.
2. Establish clear transitions between sidewalk and building entries, such as a change in material or recessed entries.
3. Where necessary for ground floor uses, use setbacks and massing breaks to allow for more generous seating, outdoor dining, and landscape elements while still promoting an urban streetscape environment.

Key Map



Key

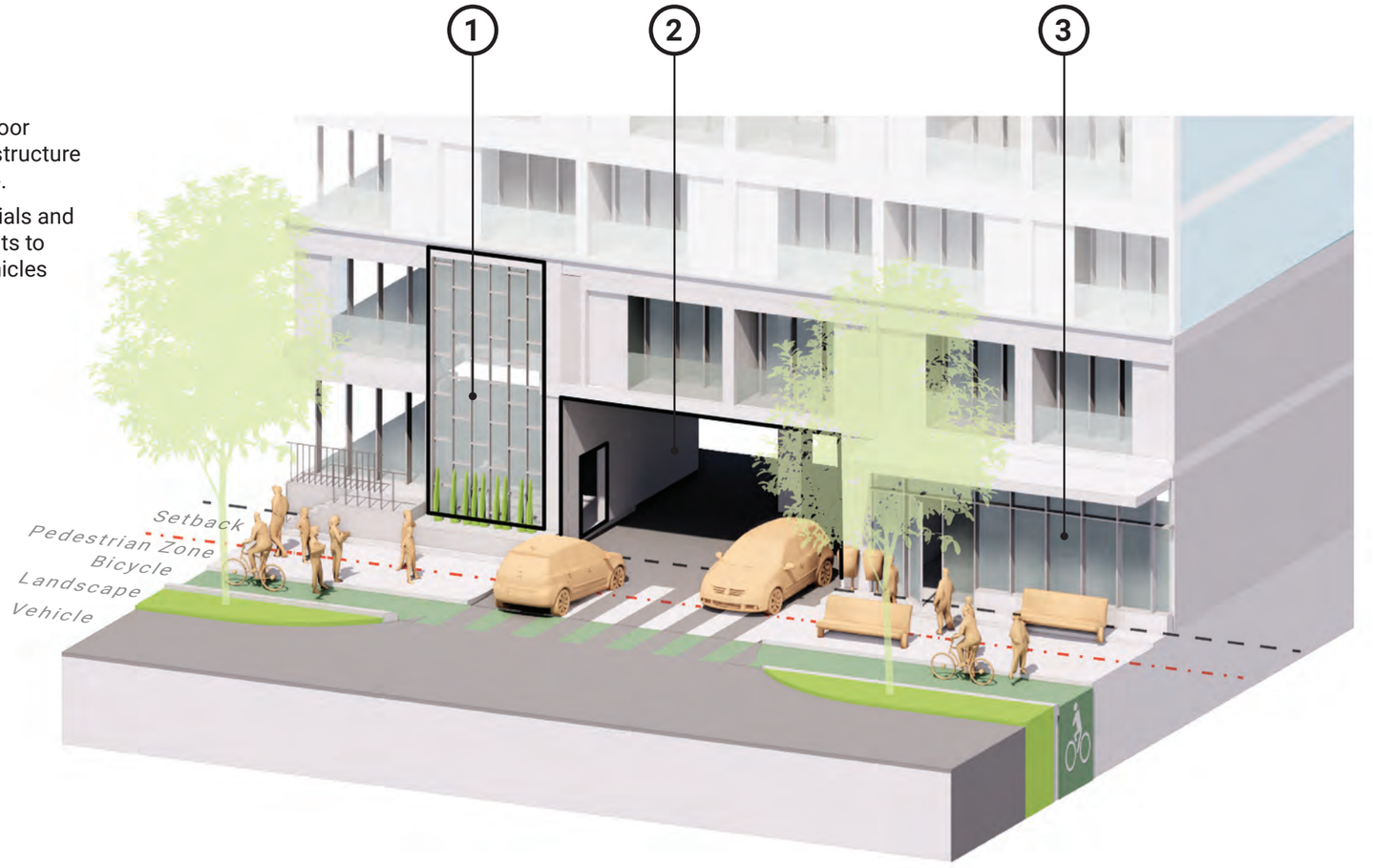
- PROPERTY LINE
- SETBACK
- LANDSCAPE
- BIKE PATH

Typical Neighborhood Street Parking

Parking frontages on typical neighborhood streets should be unobtrusive and integrated with the design of the larger building. For standalone parking structures, active uses should be used to wrap the parking areas as feasible. Where parking entries or interior parking areas front the street, the frontage design should incorporate strategies to mimic the scale and design language of other frontage types and minimize the presence of parked vehicles for the passing pedestrian.

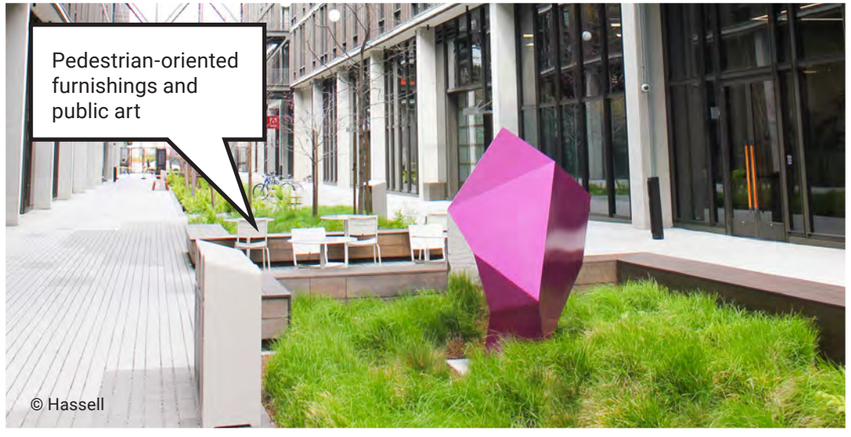
STRATEGIES

1. An illuminated parking lobby for pedestrians provides legibility for the building and also serves as a form of wayfinding, particularly when combined/adjacent to an active use.
2. Integrate parking entries for vehicles into the building's overall frontage design.
3. Incorporate active ground floor uses that wrap the parking structure and enliven the street scene.
4. Integrate high-quality materials and other architectural treatments to minimize the visibility of vehicles from the pedestrian's view.



D4.4. Mid-Block Break

Key Map



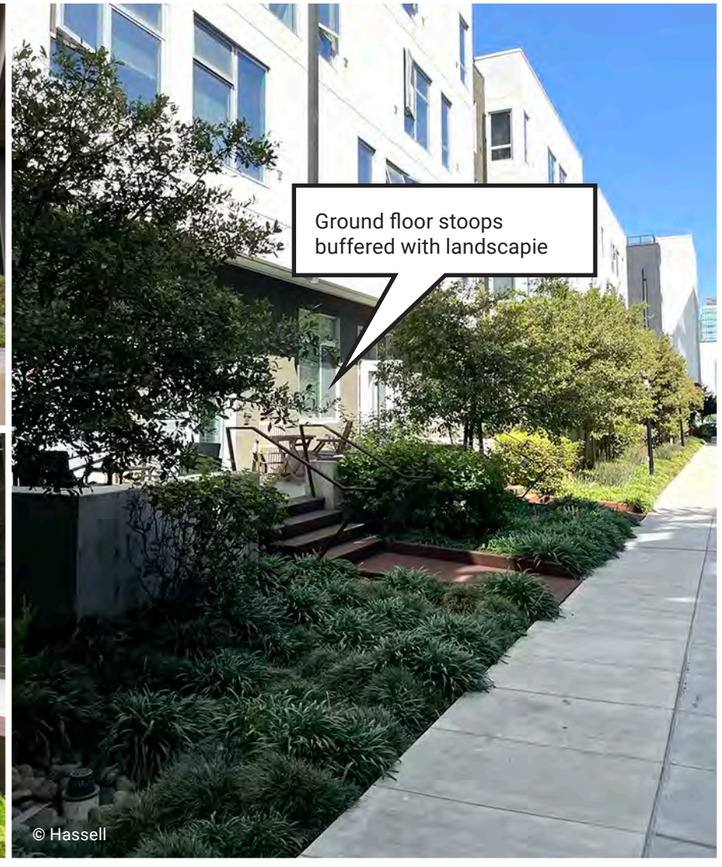


Table D4.4.1 MID-BLOCK BREAK FRONTAGE SUMMARY

MID-BLOCK	OFFICE	RESIDENTIAL	PARKING
Minimum Setback	0 ft.	0 ft.	0 ft.
Programmatic Uses	Office amenity space Interior building entries Indoor/outdoor flexible program space	Ground floor units Residential amenity space Retail	Parking and vehicle entries Active, residential, or office uses wrapping where feasible
Setback Element Examples	Pedestrian seating and amenities Office amenity spaces Landscape buffer Green infrastructure	Pedestrian seating and amenities Wayfinding elements Landscape buffer, terraces, and stoops Green infrastructure	Pedestrian seating and amenities Wayfinding elements Landscape buffer Green infrastructure
Building Element Examples	Large operable doors/windows promoting fluid indoor-outdoor experience Amenity terraces and balconies	Stoops and individual unit entries Shared entries Awnings Podium open space overlooking the driveway	Integrated screening strategies such as green walls, murals, and dynamic material applications

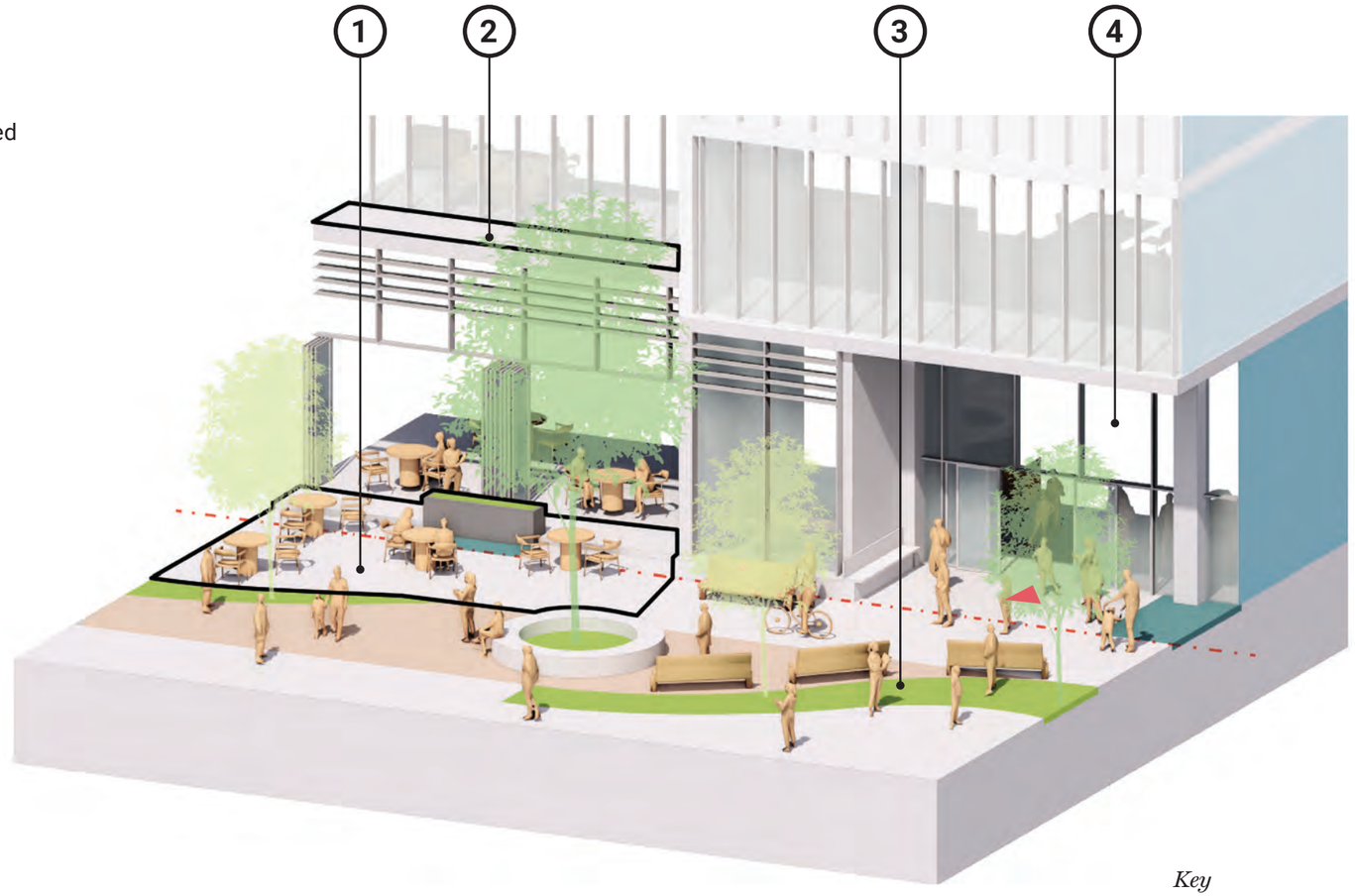
Mid-Block Office

These interior connections between office buildings are envisioned as flexible outdoor extensions of the adjacent office use, allowing for a variety of outdoor programming such as dining, workspaces, social or recreation areas, as well as pedestrian circulation. Frontage design should foster an intimate and diverse experience for pedestrians, with an expressed building base that ebbs and flows from the edge of the mid-block break boundary.

STRATEGIES

1. Provide transparency and openings at ground level to help foster a fluid and dynamic indoor-outdoor experience and contribute to high-quality, on-site open space.
2. Design buildings with an expressed base to help mitigate scale on narrower streets and improve solar access for pedestrians.
3. Incorporate landscape and paving treatments to reinforce the space as a pedestrian-oriented, car-free environment.
4. Design for smaller entries and breaks in the facade to reinforce a human scale and create a more diverse street scene.

Key Map



Key

- MID-BLOCK BREAK EDGE BOUNDARY
- LANDSCAPE
- POTENTIAL GREEN INFRASTRUCTURE
- BUILDING ENTRY

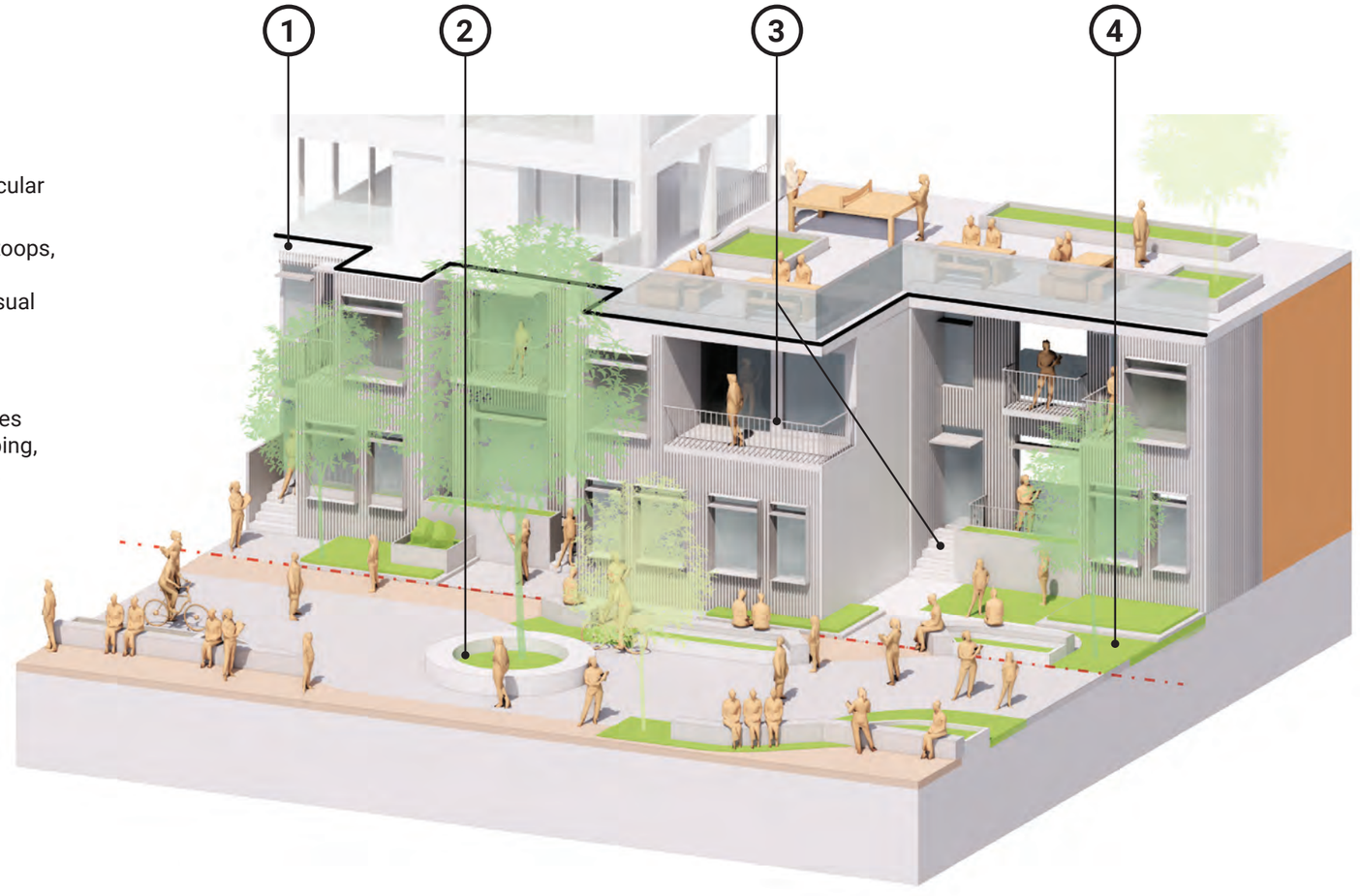
Mid-Block Residential

These frontages are envisioned as highly people-oriented spaces where varying building setbacks and a finer scale of massing and articulation at the ground level enable a diverse and interesting human-scale environment. Individual unit stoops and small gardens along the edge of the mid-block break boundary help instill a more intimate, community-oriented, sense of place.

STRATEGIES

1. Establish variation in massing and materiality at the podium level to contribute towards a more human-scale environment.
2. Incorporate special paving and landscaping elements to reinforce the shared, non-vehicular character of the driveway.
3. Integrate ground floor units, stoops, and balconies with the overall frontage design to increase visual interest at the street level and encourage social interaction.
4. Employ massing breaks and setbacks to create opportunities for additional on-site landscaping, including green infrastructure.

Key Map



Key

MID-BLOCK BREAK EDGE BOUNDARY

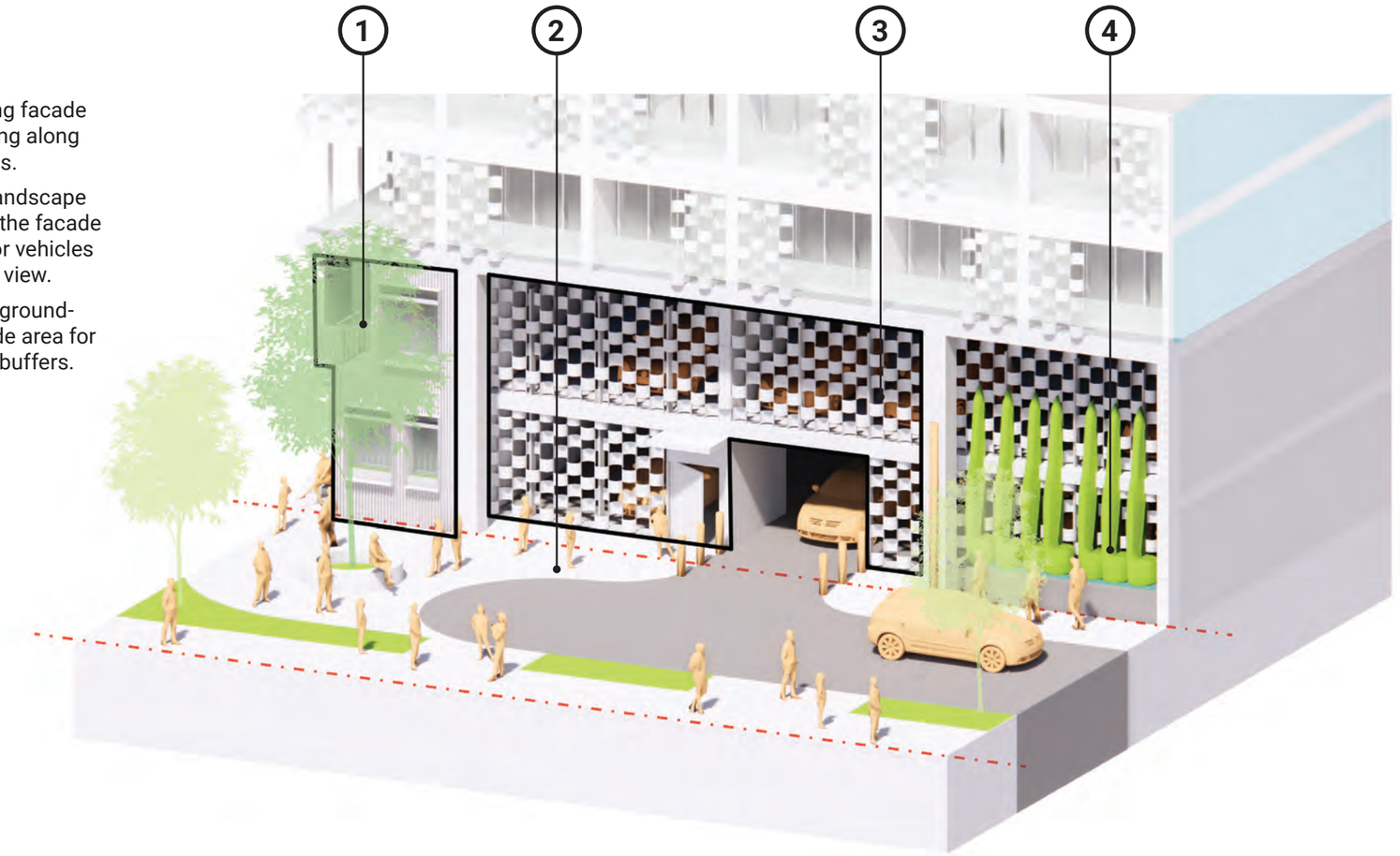
LANDSCAPE

Mid-Block Parking

For portions of mid-block breaks where vehicle access to parking is necessary, buildings should prioritize the wrapping of parking structures where feasible. For parking entries and exposed parking areas, the frontage should incorporate design strategies to mimic the scale and design language of the other mid-block frontage uses and minimize the presence of parked vehicles for the passing pedestrian.

STRATEGIES

1. Where feasible, wrap parking facilities with non-parking uses such as residential units or active uses.
2. Incorporate streetscape design elements that indicate where vehicle access can occur, such as turnarounds delineated with a change in material and/or bollards.
3. Use visually interesting facade treatment for screening along exposed parking areas.
4. Incorporate vertical landscape elements that soften the facade and screen the interior vehicles from the pedestrian's view.
5. Where feasible, inset ground-level parking to provide area for additional landscape buffers.



D4.5. Open Space

Key Map

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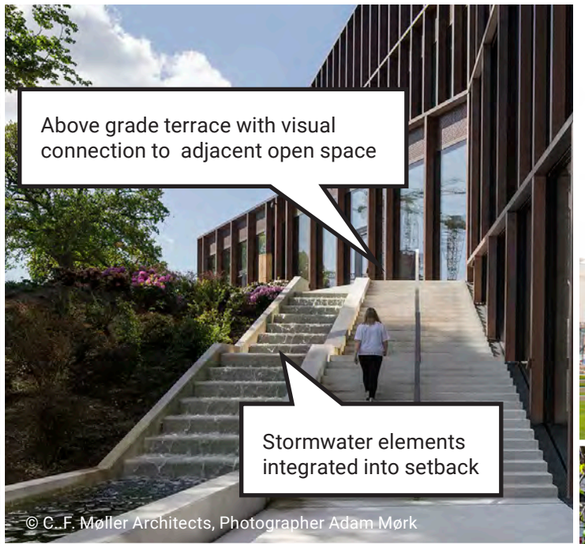

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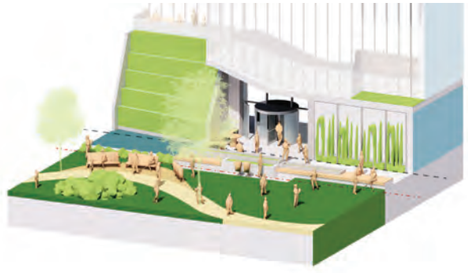
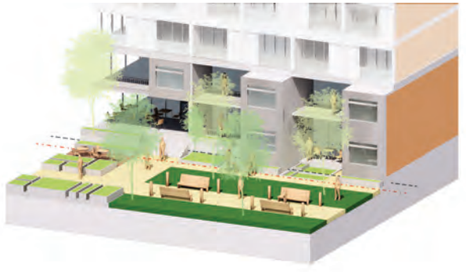
Table D4.5.1 OPEN SPACE FRONTAGE SUMMARY





OPEN SPACE	OFFICE TYPICAL	OFFICE TERRACE	ACTIVE USE	RESIDENTIAL
Minimum Setback	10 ft.	10 ft.	0 ft.	10 ft.
Programmatic Uses	Secondary office entry/lobby Office program	Office program Office terrace	Ground floor retail space Food and beverage with outdoor dining Community-serving uses	Shared entries/lobbies Ground floor units Residential amenity space
Setback Element Examples	Micro-mobility parking and amenities Pedestrian seating and amenities Landscape buffer Green infrastructure	Outdoor office amenity space Landscape buffer Green infrastructure	Micro-mobility parking and amenities Pedestrian seating and amenities Outdoor dining space Social seating areas	Micro-mobility parking and amenities Pedestrian seating and amenities Landscape buffer Residential gardens
Building Element Examples	Vertical landscape features such as green walls Awnings and shade structures	Large transparent openings that engage the park Awnings and shade structures	Low walls and awnings Larger shop front windows Transparent materials Awnings and shade structures	Stoops and individual unit entries Shared entries Awnings

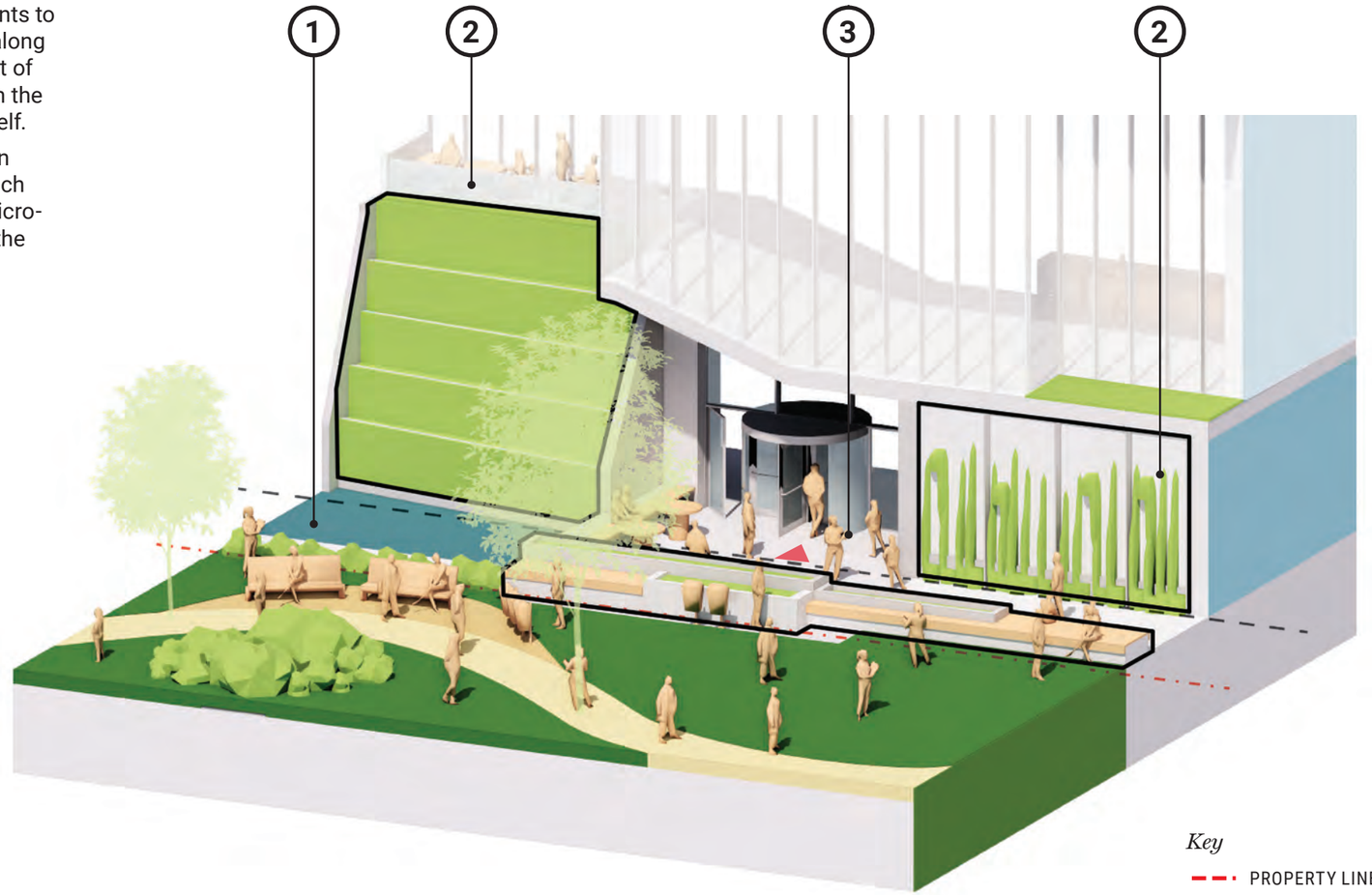
Open Space Office Typical

This 'typical' office frontage is located along open spaces where building entries meet the edge of the open space. Vertical landscape elements such as green walls and terracing is encouraged along the length of the frontage to soften the transition from park to development site, and to ensure a level of privacy for the future office users.

STRATEGIES

1. Consider the design of the adjacent open space in the overall frontage design, particularly for building's opposite the Eco Gem and Shorebird Wilds open space areas.
2. Use building setbacks for stormwater and ecological landscape elements to contribute to a more integrated natural environment.
3. Incorporate above grade terraces and vertical landscape elements to help increase visual interest along parks and establish a gradient of open space that extends from the park and onto the building itself.
4. Provide a variety of pedestrian amenities within setbacks, such as seating, trash cans, and micro-mobility parking, to enhance the user experience of the park.

Key Map



Key

- PROPERTY LINE
- SETBACK
- LANDSCAPE
- POTENTIAL GREEN INFRASTRUCTURE
- BUILDING ENTRY

* Diagrams illustrate potential open space frontage outcomes. Final open space designs not yet determined.

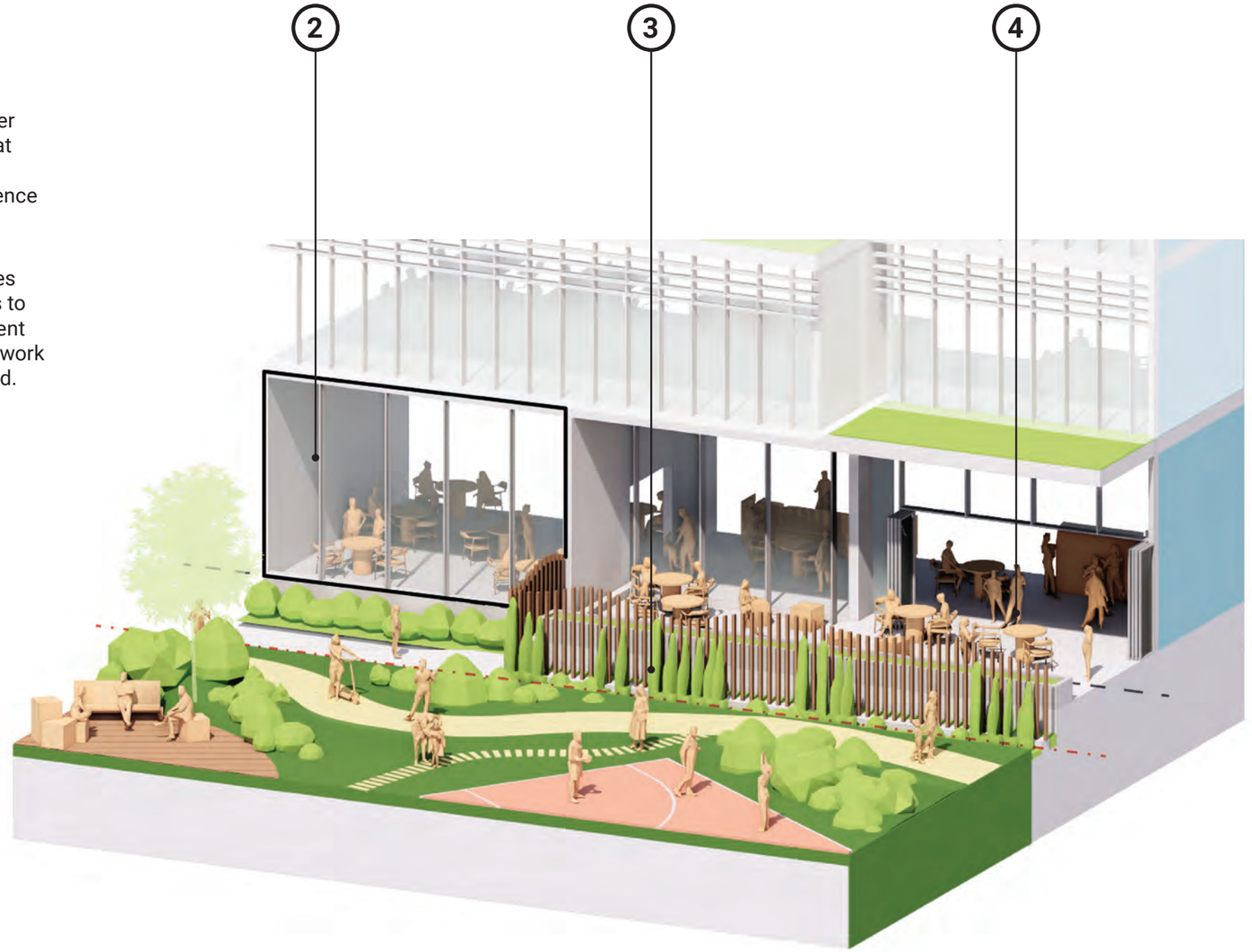
Open Space Office Terrace

For other portions of office buildings along open spaces that do not include entries, the frontage design should integrate outdoor terraces and large transparent facade elements that allow for visual connections to and from the adjacent open space.

STRATEGIES

1. Consider the design of the adjacent open space in the overall frontage design, particularly for buildings opposite the Eco Gem and Shorebird Wilds open space areas.
2. Provide transparent materials along open spaces to promote visual connections between park and office building users.
3. Incorporate landscape and other opaque screening elements that help provide visual interest and enhance the pedestrian experience along parks while providing privacy for future office users.
4. Design covered outdoor terraces for dining and other office uses to help enliven the park environment by encouraging office users to work and socialize outside year round.

Key Map



Key

- PROPERTY LINE
- SETBACK
- LANDSCAPE
- OPEN SPACE

* Diagrams illustrate potential open space frontage outcomes. Final open space designs not yet determined.

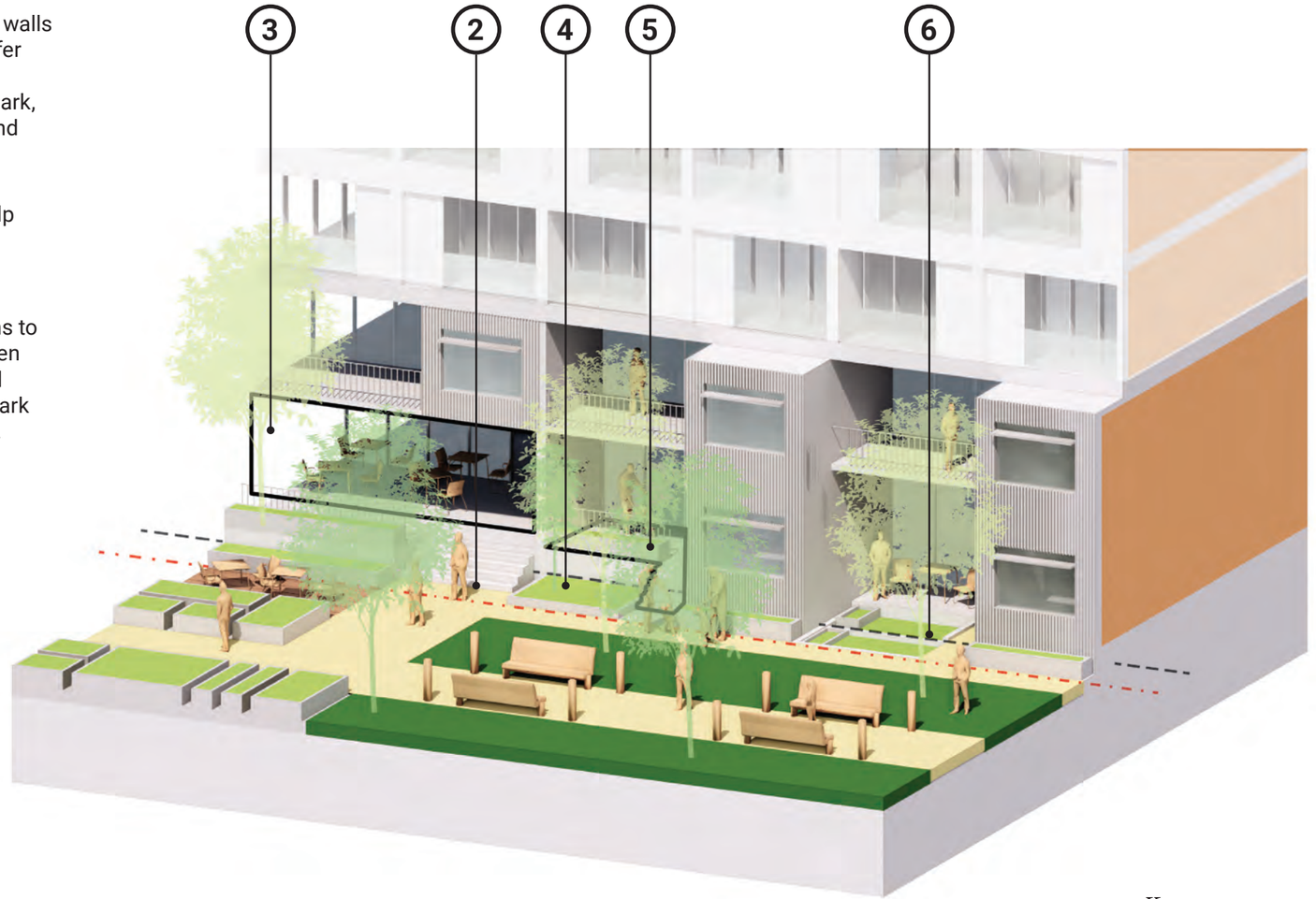
Open Space Residential

Residential frontages along open space should incorporate a mixture of community or amenity spaces with individual unit entries to maximize 'eyes on the park' and pedestrian activity. The design of terraces and gardens should be integrated into the overall building design, and promote visual connectivity while clearly delineating private realm from public realm.

STRATEGIES

1. Consider the design of the adjacent open space in the overall frontage design.
2. Incorporate points of connection to adjacent non-vehicular routes, such as the Green Loop, into the overall frontage design where appropriate.
3. Design frontages with balconies and amenity spaces oriented towards the park to increase visual interest for park users.
4. Incorporate plantings and low walls within the setback to help buffer and screen residential ground floor uses from the adjacent park, while still ensuring a design and visual continuity between the building and adjacent park.
5. Use ground floor stoops to help establish a human scale and activate the public realm.
6. Where appropriate, provide individual terraces and gardens to delineate the transition between public and private spaces, and extend the ecology from the park and into the development site.

Key Map



Key

- PROPERTY LINE
- SETBACK
- LANDSCAPE
- OPEN SPACE

* Diagrams illustrate potential open space frontage outcomes. Final open space designs not yet determined.

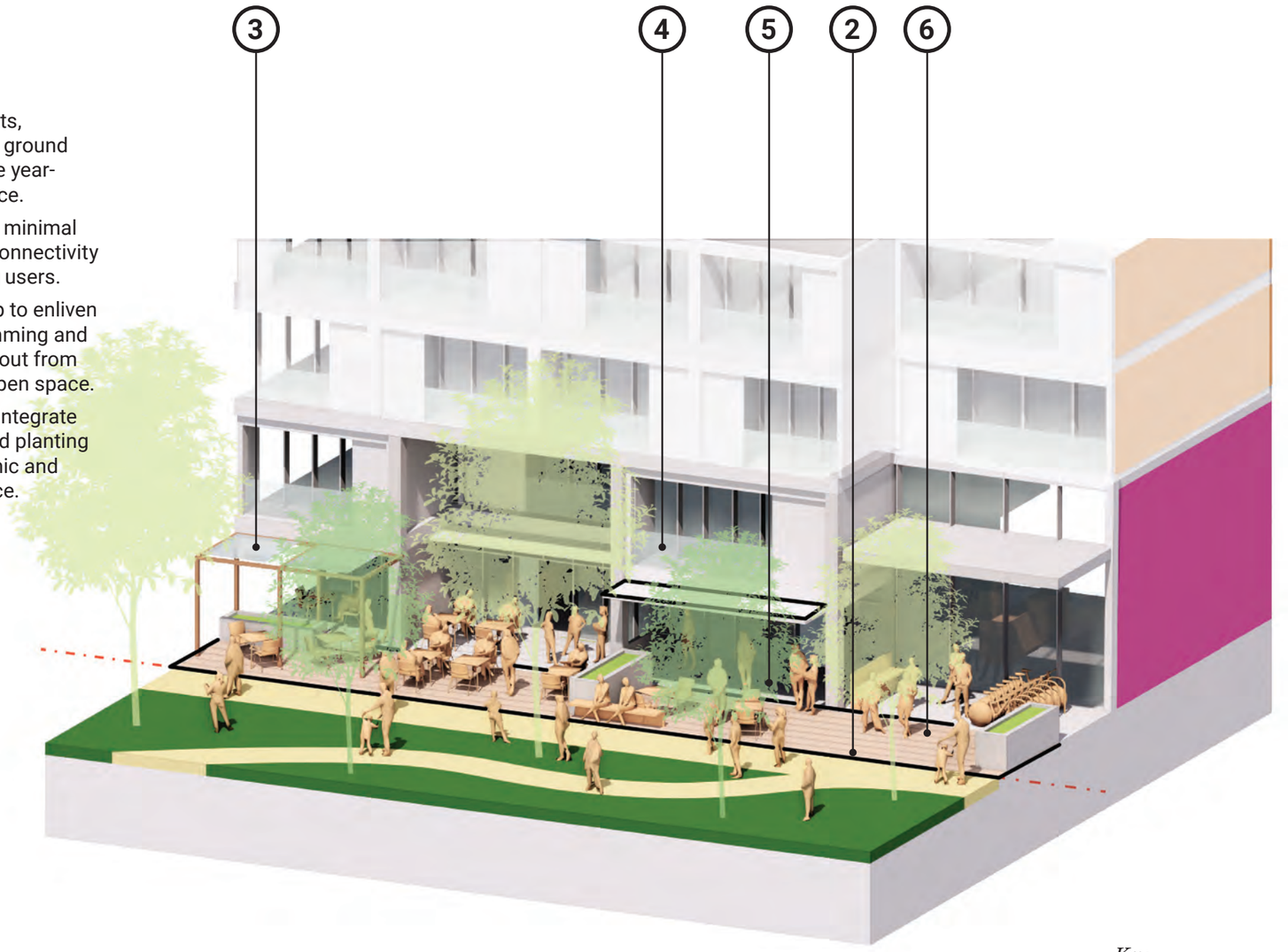
Open Space Active Use

For active ground floor uses where no setback is required, frontage designs should incorporate elements that contribute to the life and activity of the adjacent open space by providing comfortable and accessible places for people to sit, gather, and watch. Entries should be smaller scale and integrated within the larger massing of the building, and the ground floor may set back further to provide additional spillout space for outdoor dining, micromobility parking, and shared lobbies for the residential units above.

STRATEGIES

1. Consider the design of the adjacent open space in the overall frontage design.
2. Incorporate points of connection to adjacent non-vehicular routes, such as the Green Loop, into the overall frontage design where appropriate.
3. Shade and canopy elements, especially on south-facing ground floor units, can help ensure year-round use of the open space.
4. Transparent materials and minimal setbacks promote visual connectivity between park and building users.
5. Ground floor uses can help to enliven open spaces with programming and design elements that spill out from the building and into the open space.
6. Landscape elements that integrate circulation with seating and planting areas help enable a dynamic and memorable park experience.

Key Map



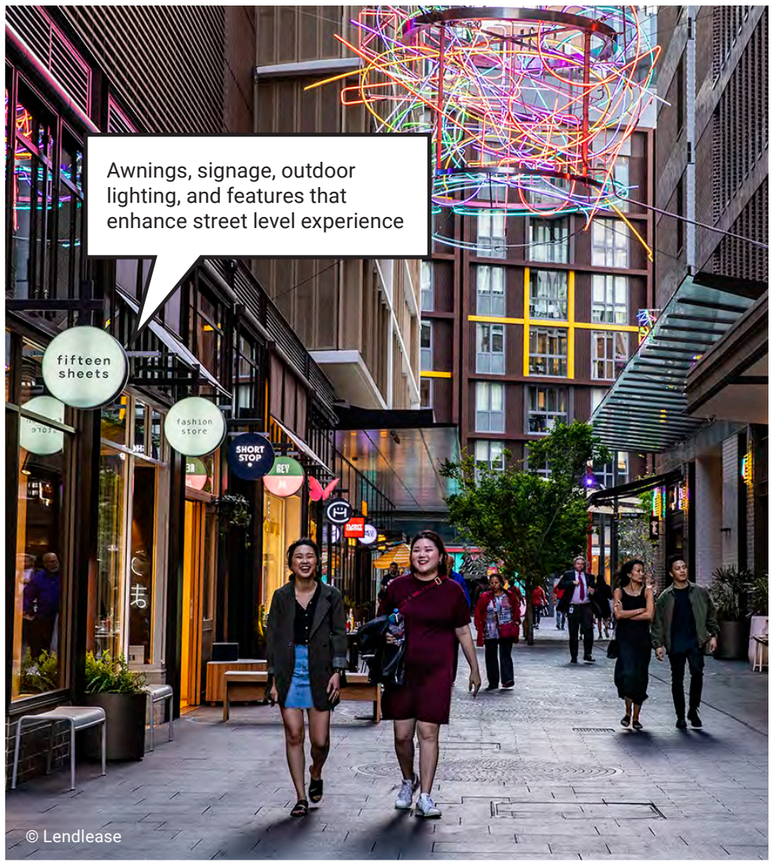
Key

- PROPERTY LINE
- SETBACK
- LANDSCAPE
- OPEN SPACE

* Diagrams illustrate potential open space frontage outcomes. Final open space designs not yet determined.

D4.6. Social Spine

Key Map



Social Spine (Mid-Block Active Use)

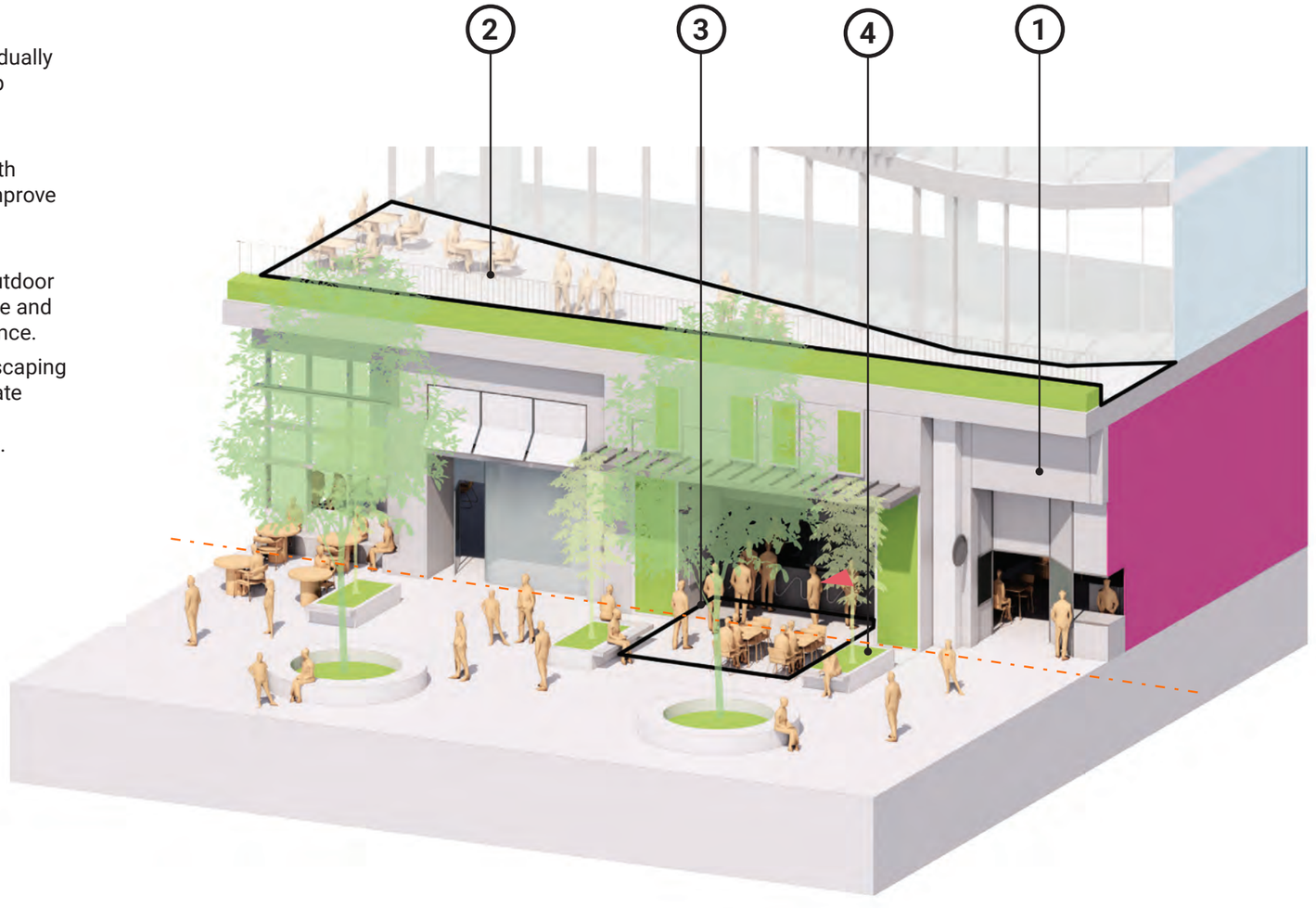
The Social Spine is a highly activated and pedestrianized mid-block break lined with ground floor active uses. As a major hub of pedestrian activity, its frontage should incorporate a more granular scale of design elements such as individually expressed ground floor units and varying shopfront expressions. A well-defined, human-scale base is created with stepbacks above the ground floor, which double as outdoor terraces where people can gather to watch the vibrant pedestrian scene below.

STRATEGIES

1. Incorporate varied and individually expressed shopfronts to help create a memorable and unique urban experience.
2. Express the building base with terraces and stepbacks to improve solar access and reinforce a sense of human scale.
3. Provide spill out space for outdoor dining to help create a diverse and engaging pedestrian experience.
4. Use special paving and landscaping elements to help communicate the special, non-vehicular character of the Social Spine.

Table D4.6.1 SOCIAL SPINE FRONTAGE SUMMARY

MID-BLOCK	SOCIAL SPINE (ACTIVE USE)
Minimum Setback	0 ft.
Programmatic Uses	Retail Food and beverage with outdoor dining
Setback Element Examples	Recessed storefront entries Outdoor dining Social gathering spaces
Building Element Examples	Clearly defined shopfronts Larger shopfront windows Varying ground floor materials Indoor/outdoor storefront facade treatments



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CHAPTER 5

Materials and Facade Articulation

NBPP Design Principles

This chapter addresses the Master Plan's approach to the following NBPP urban design principles:

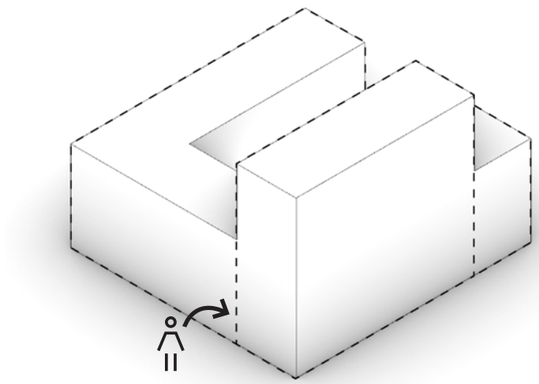
#6. Articulate building facades to create human-scale buildings

#7. Distinguish North Bayshore as a unique, urban district through architecture and building design

#11. Integrate sustainable building design and technologies to generate highly sustainable urban neighborhoods

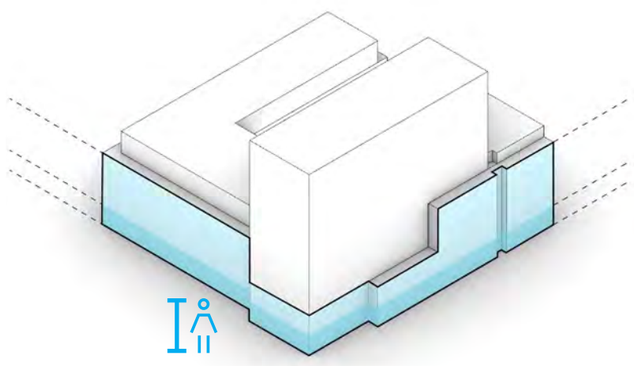
D5.1. Overview

The use of materials and facade articulation strategies should support the overall composition of a pedestrian-oriented, human-scale building design, including establishing clear massing volumes, distinguishing the building base from the upper building, and creating a high-quality active ground level frontage.



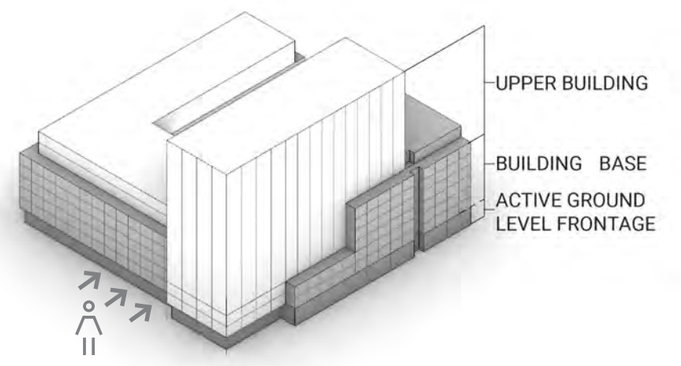
1. Establish Volumetric Clarity

Use singular, large scale massing moves--such as massing breaks, changes in plane and height differences--to shape the overall building mass into clear, coherent forms that reinforce the human scale.



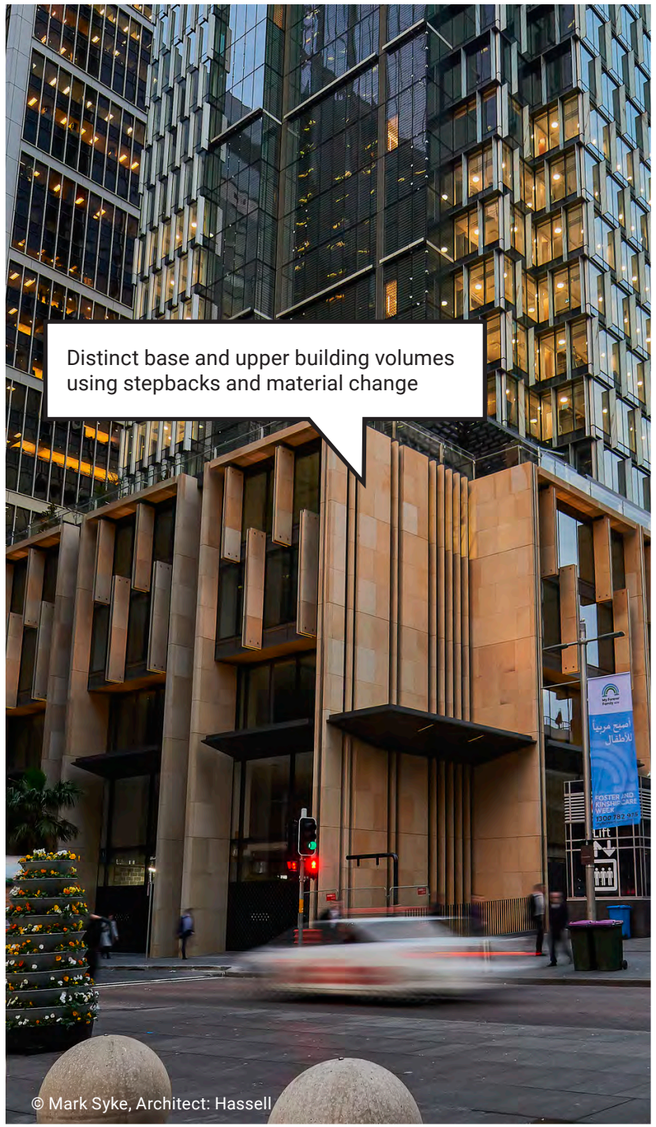
2. Create a Building Base

Differentiate the upper building from the building base with stepbacks to create a consistent streetwall across projects. The base may step down at high-rise buildings to help emphasize verticality while still maintaining a human-scale.

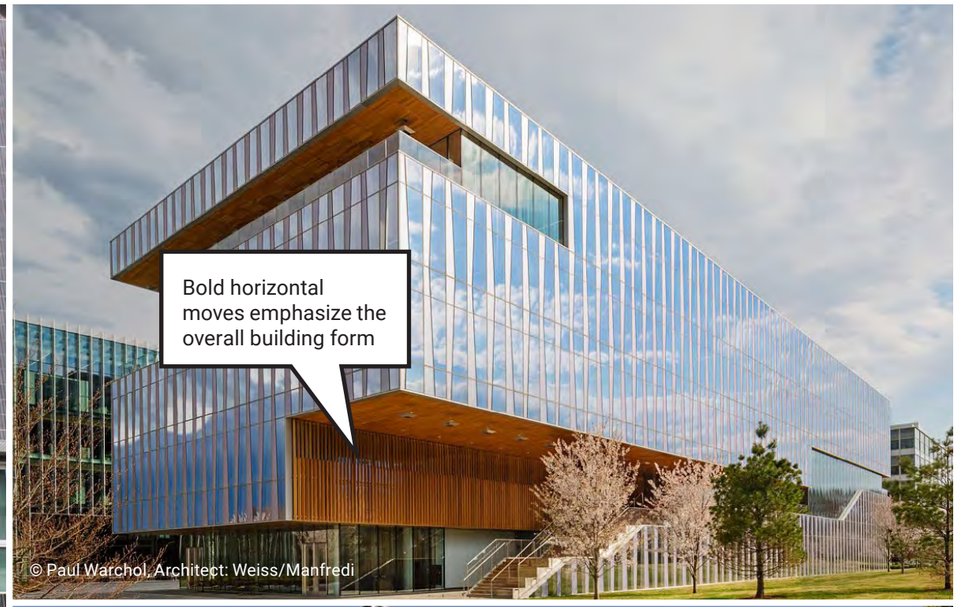


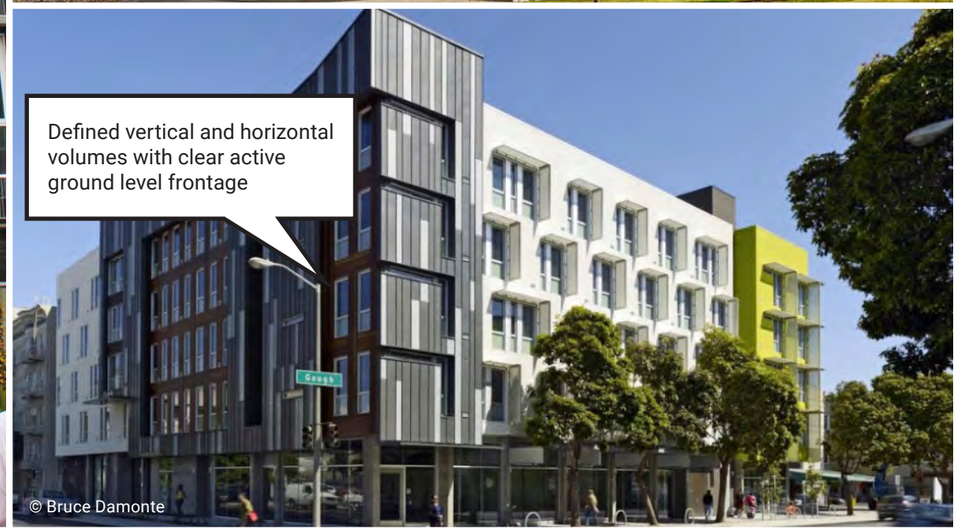
3. Apply Materials and Facade Articulation Consistently and Clearly

Use materials and facade articulation (including variation in treatments) to reinforce the human-scale, establish an overall clarity of volumes and building base, and convey architectural intent/character–paying special attention to quality and scale at the active use frontages.


Distinct base and upper building volumes using stepbacks and material change
© Mark Syke, Architect: Hassell


CHANGE THE WORLD FROM HERE.
Clear distinction of volumes by using different materials and massing break
© Hassell


Bold horizontal moves emphasize the overall building form
© Paul Warchol, Architect: Weiss/Manfredi


Defined vertical and horizontal volumes with clear active ground level frontage
Gough
© Bruce Damonte

D5.2. Materials

The effective use of building materials, combined with facade articulation, plays a crucial role in establishing the architectural character of future buildings and delineating different elements of the building (e.g. emphasizing a building base as a component of a larger building mass). Materials also influence the neighborhood's overall experience. The objective of this section is not to prescribe specific materials and limit designers, but to encourage smart and creative use of materials, with consideration for the scale at which the building will be experienced.

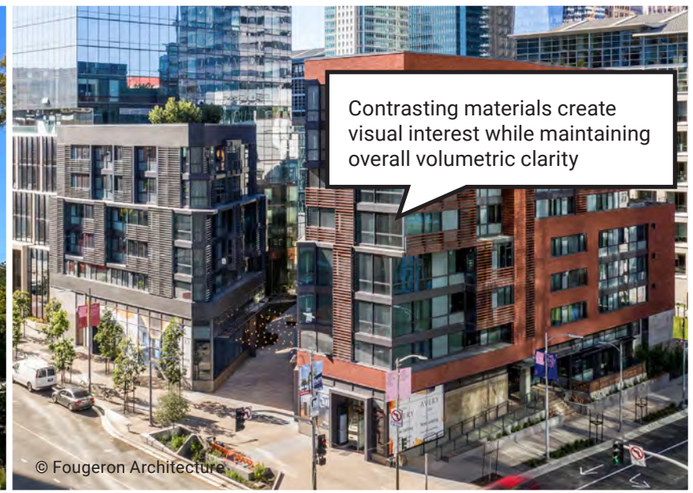
Particular attention should be paid to using high-quality materials that exhibit authenticity with a dimensional thickness and craft in their assembly. For example, steel plate rather than aluminum sheet, and architectural concrete and natural wood (including engineered/treated products) rather than imitation products such as wood printed metal siding.

At the frontage zone in particular, materials that convey a smaller scale of unit within a larger surface are encouraged, helping to reduce the overall scale of a building and create visual interest. For example, when assembled into larger surfaces, materials like wood planks and bricks have a smaller form factor and provide variation both in their inherent materiality as well as the joints required for construction.

The use of high-quality materials is not only more desirable from a scale and experiential standpoint, but also ensures a more sustainable, durable and economical outcome that is better for the environment long-term.

STRATEGIES

1. Use high-quality, tactile materials at the building base, in harmony with the upper building to elevate the pedestrian experience.
2. Incorporate building materials that complement the surroundings, providing cohesive, individual building designs complementing other nearby buildings to create a visually appealing neighborhood.
3. Utilize locally sourced, renewable, natural materials whenever possible.
4. Use low-reflective materials that do not cause glare and ensures a safe environment for birds.
5. Use materials with low maintenance that are appropriate to the micro climate of North Bayshore.
6. Materials should be simple, undecorated, and in their natural state in order to reflect the character and surroundings of North Bayshore.

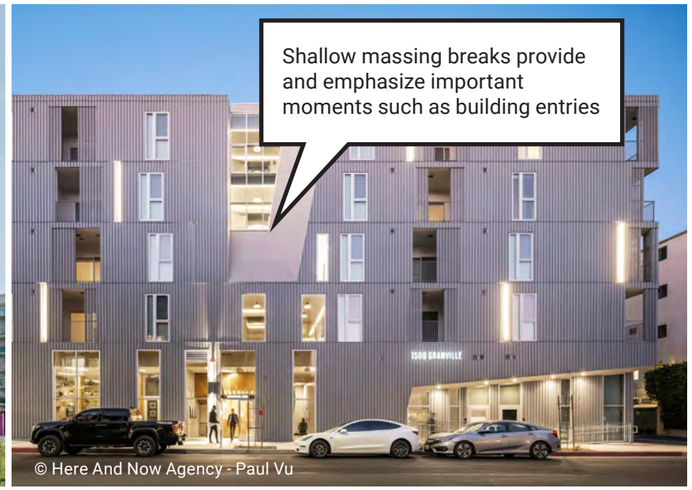


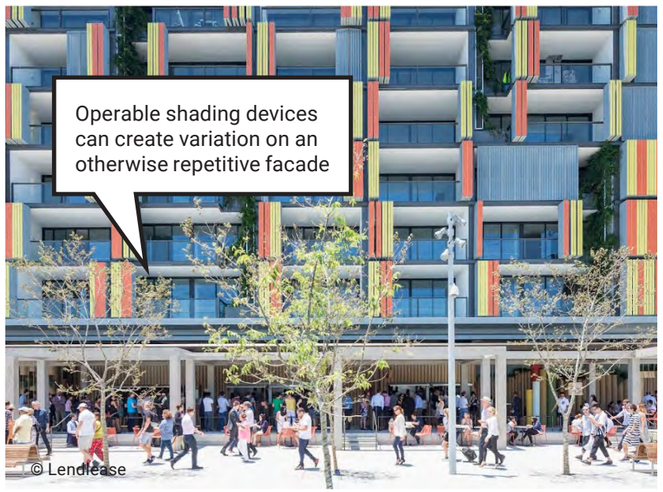
D5.3. Facade Articulation

Facade articulation is a key aspect of building design that involves using modulation of building walls and design elements to create visual interest on a building's exterior. Skillful facade articulation can make a building stand out in a crowded urban setting, add depth and texture to otherwise monotonous surfaces, and provide a dynamic visual experience. Facade articulation should not be used as attached decoration, but should relate to the interior function of the building including supporting sustainability design goals, such as solar shading and green building elements.

STRATEGIES

1. Provide facade articulation to create visual interest and avoid monotony.
2. The building exterior should be visually captivating, balanced in its design, and contribute positively to the pedestrian experience of the surrounding area.
3. Incorporate a unified facade arrangement with diverse human-scale horizontal and vertical features that enhance the building's visual appeal and establish a strong connection between the building, its function, and its urban context.
4. Avoid visually busy facades with elements that lack coherence with the building's form or scale, or incorporate multiple visual organization systems that do not complement each other.
5. Use sustainable facade elements, i.e. operable and static shading devices, PV systems, vertical green walls, etc.





Google

Appendix E

Parks & open space design objectives

04.2023

Contents

Preface

The design of all parks included in this document are subject to final review and approval by the City, either as part of the City's standard park design process (or as modified by the Development Agreement) for dedicated parks, or as part of future zoning applications where parks are delivered as POPA.

All illustrative concept plans, diagrams and precedent imagery illustrate an example of potential future programing and are indicative only.

CHAPTER 1

Vision Narrative

E1.1. Introduction

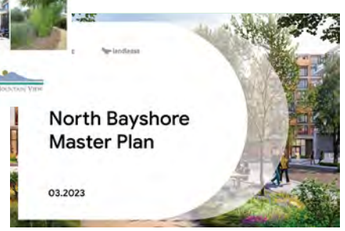
Parks & Open Space Design Objectives

The Document

The Parks and Open Space Design Objectives describes the vision and aspirations for the public realm framework and each of its parks and open spaces. This document is intended to serve as an expansion of the vision for North Bayshore District open spaces as it relates to the North Bayshore Master Plan.

Its purpose is to establish and articulate the experiential and programmatic drivers that will lay the foundation and basis of design for the future North Bayshore Master Plan from concept to construction.

Precise Plan



Master Plan

Fig. 2

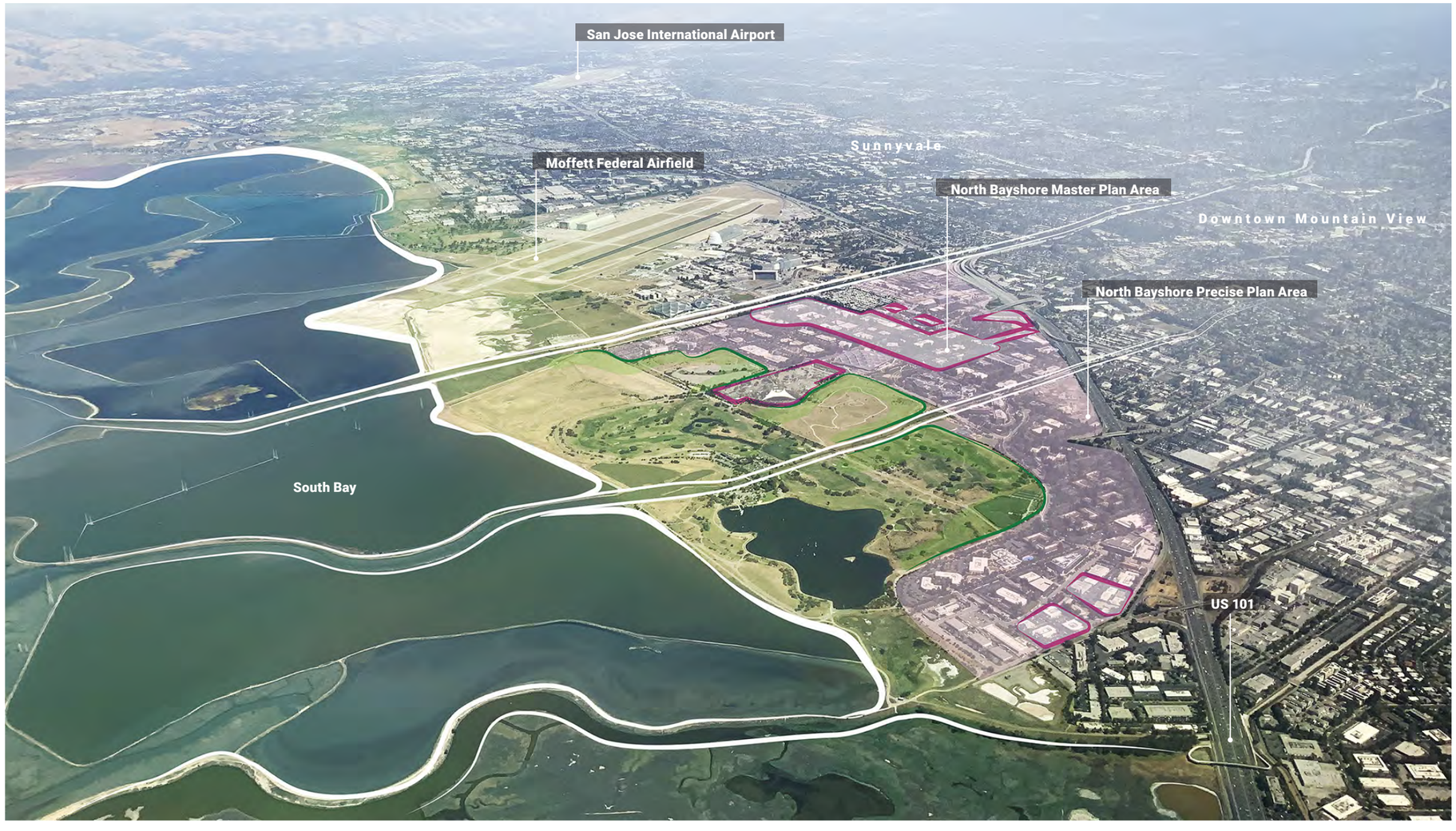
E1.2. North Bayshore District

Front Row Seat to the Bay

Overview

Located in Mountain View, the North Bayshore Master Plan serves to revitalize the long-time home of Google's global headquarters into a vibrant and inclusive mixed-use community.

The ±153 acre Project Site, situated in between the Permanente Creek and Stevens Creeks, has a front row seat to the South Bay. North Bayshore is an ecologically-focused landscape, where its robust open space network connects and contributes to a larger, regional pedestrian and bike system.



Key

NORTH BAYSHORE PRECISE PLAN AREA

NORTH BAYSHORE MASTER PLAN AREA

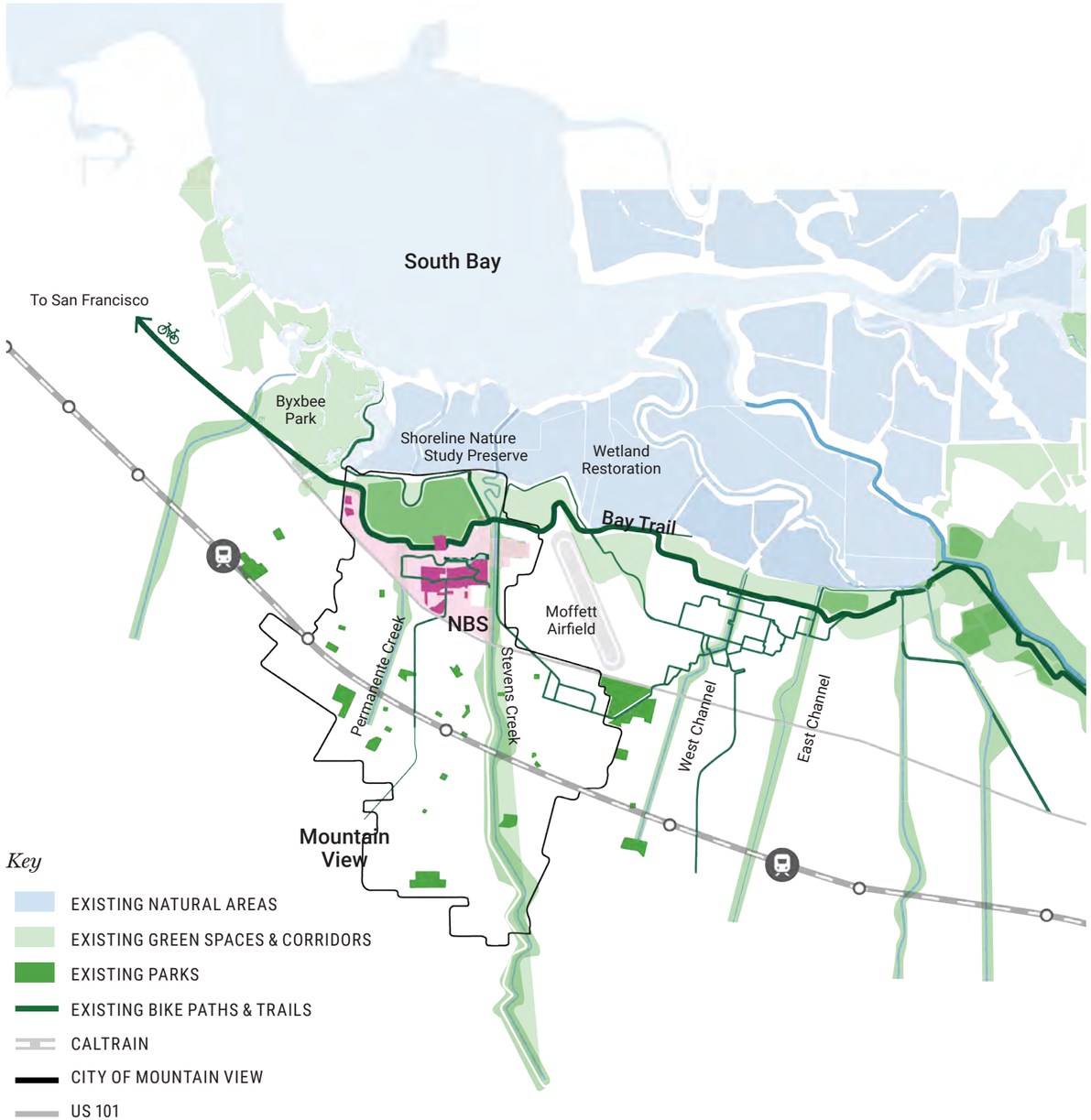
E1.3. The Surrounds

Regional Bay Ecosystem

North Bayshore

The open space network is framed and influenced by the Master Plan's adjacencies to the regional trail network and riparian corridors as well as the area's roots in learning, technology, industry and entertainment. Situated along one of the most prominent blue-green fingers and rail lines, future North Bayshore parks are an opportunity to create innovative green infrastructure that will connect and mobilize both people and wildlife.

FIGURE E1.1 REGIONAL BAY ECOSYSTEM




Bay Edge Condition


Tidal Salt Marsh & Wet Meadows


Bay Trail


Creek Trails (Permanente & Stevens)

E1.4. Today's North Bayshore Master Plan Area

Uniquely Positioned on the South Bay

Today's Condition

North Bayshore today operates as an industrial office park populated with low rise office buildings and an abundance of surface parking.

Through the recently construction of performative landscapes such as Charleston Retention Basin and Bay View campus, the site has begun transformation towards a more layered, innovative, and ecologically-rich campus design - rooted in enhancing the site's inherent landscape qualities.

Key

NORTH BAYSHORE MASTER PLAN AREA

E1.5. North Bayshore Today

Landscape Performance for Ecological Transformation

Landscape Aspirations

Over time, North Bayshore will be transformed to provide a robust, ecologically-rich park and open space network. This network will provide human-centric connectivity not only on a district neighborhood scale but also on a regional scale, from the urban tissue of Mountain View to the South Bay edge. At the same time, the enhanced landscape will create a critical piece of social infrastructure for future workers, residents and visitors.

Each park and open space in the Master Plan shall meet - and go beyond - the North Bayshore Precise Plan's ecological goals. The Master Plan will foster overall performance targets such as connecting existing riparian ecosystems to new ecology patches, creating a robust landscape matrix that fills the gaps and delivers new benefits to the ecosystem, and improving connectivity of nature-based corridors for both people and wildlife.

E1.6. Inherent Site Qualities

Today's Landscape Character

Unique Natural Environment

Uniquely positioned to the South Bay ecosystem, North Bayshore has long been known for its inherent site features and landscape qualities such as the regional parks of Shoreline Nature Study Area Preserve, Shoreline Regional Park, and Charleston Park, Charleston Retention Basin, native biodiversity, and a variety of tree species.

Today's site has a rich ecological heritage, layered with a gradient of native ecologies and a variety of fauna zones - home to egrets, monarch butterflies and blackcrowned herons. North Bayshore will become an example of ecosystem conservation and enhancement as well as transformation towards a more sustainable and resilient future, for both nature and people.

Built Form Embedded in Ecologically-focused Landscapes

Egret Rookery

Performative Landscape

Colorful Native Biodiversity

Pedestrian & Bike-centric Green Corridors

Continuous Canopy

E1.7. Tomorrow's North Bayshore Master Plan

26.1 Acres of Parks, Plazas and Green Spaces

A Complete Parks Network

Within the 153 acre North Bayshore Master Plan, the framework is comprised of approximately 26.1 acres of parks and open space that will provide a wide variety of experiences, anchored along an enhanced and extended Green Loop multi-use trail. The parks and open space accounts for 17% of the total site area, made up of 10 parks within 3 distinct neighborhoods - Shorebird (18 acres), Joaquin North (6.9 acres), and Joaquin South (1.2 acres).

The open space comprises of 14.8 acres of dedicated park land and 11.3 acres that may be either delivered as POPA (Privately Owned, Publicly Accessible) or dedicated to the City.

Note: All diagrams and precedent imagery illustrate an example of potential future programming and/ or design and are subject to future City review and approval.

The 10 Parks & Open Spaces

1. Joaquin Terrace
2. Joaquin Commons
3. The Portal
4. Joaquin Grove
5. Shorebird Square
6. Greenway Park
7. Shorebird Wilds
8. Eco Gem
9. Shoreline Square
10. Gateway Plaza

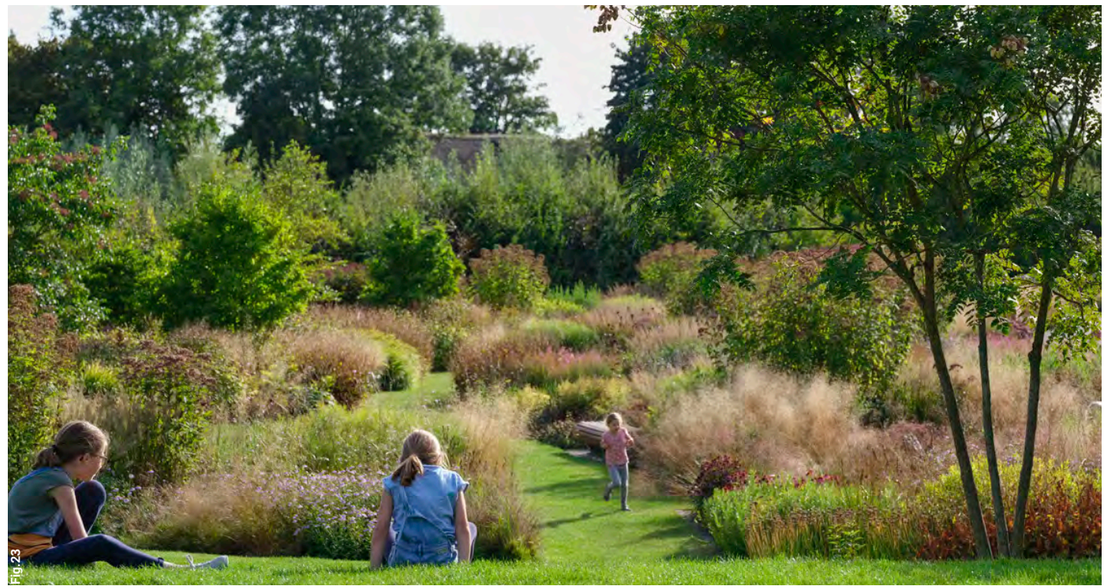
E1.8. Aspirations for North Bayshore

Tomorrow's Rich Parks & Open Space Network

Community of Diverse Experiences

The ambition is to create a spirited community rooted in place; a place that is diverse and forward-thinking, responsible and resilient, culturally valuable and socially meaningful.

North Bayshore is an evolution, offering an opportunity to change the standard of living in the South Bay area. The vision creates a complete neighborhood - one that brings together diverse groups of people, allows people to become an integral part of an active community, and connects people to its urban nature.



Access to Nature & Wildlife

Playful, Nature-Immersed Experiences

Pedestrian & Bike Mobility

Learning Landscapes

Programmable Spill-out Areas

Activation & Nightlife

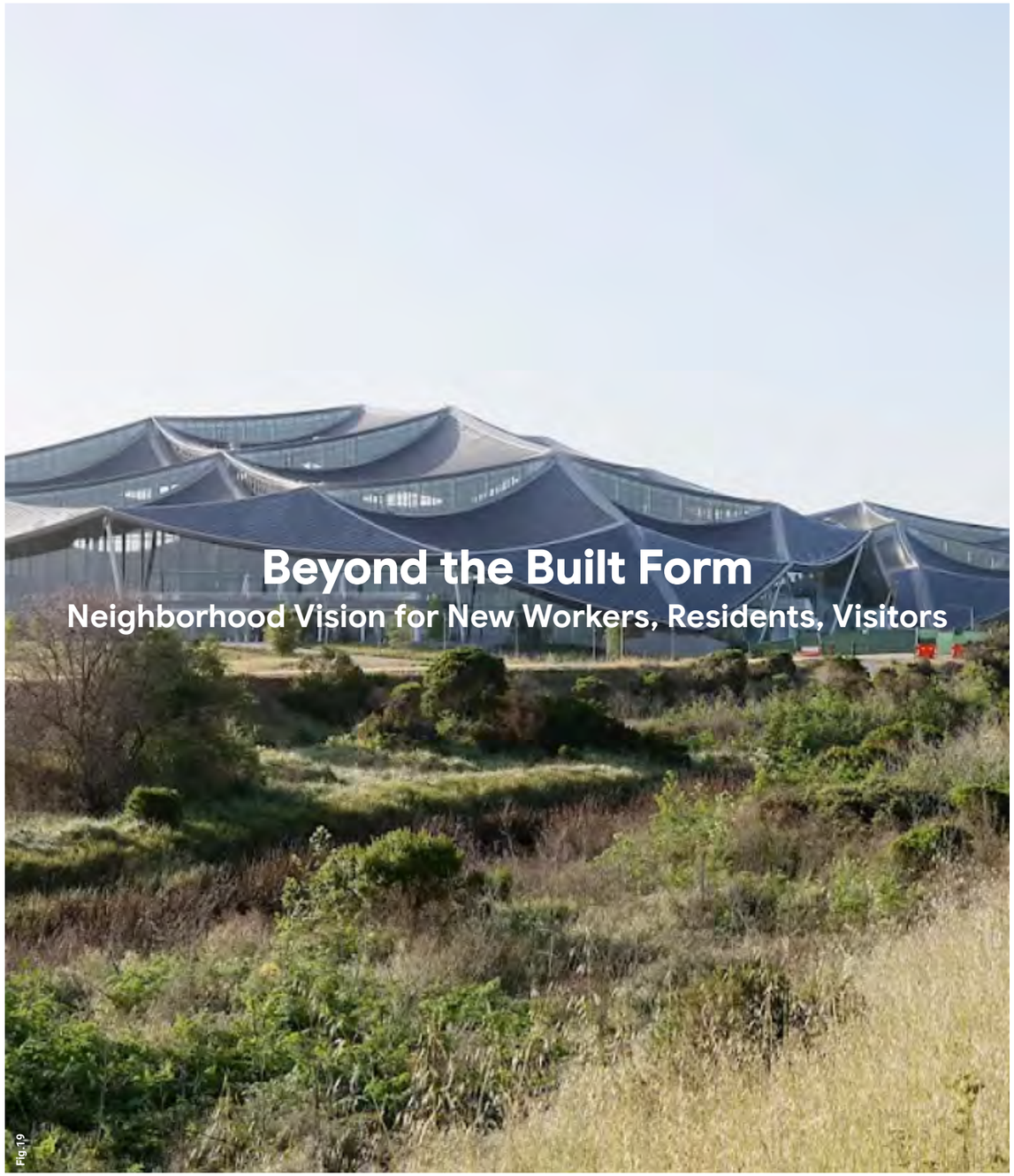

Beyond the Built Form
Neighborhood Vision for New Workers, Residents, Visitors

Fig.19


Where Community Meets Nature
Future of Sustainable Urban Living

Fig.20

E1.9. Tomorrow's Landscape Drivers

Vision Narrative

Core Principles

The North Bayshore Master Plan aims to be a best-in-class effort to establish a uniquely vibrant space nested in a healthy, ecologically-rich environment.

The Master Plan is a project with transformative potential, where a strong existing culture and identity and an established natural ecology will provide the backbone for tomorrow's robust parks and open space network.

This Master Plan transcends the outmoded single-use office park paradigm with a vision for a diverse, inclusive, mixed-use urban community for the 21st century. Over time, the Master Plan will phase out existing suburban built form typologies, enhance the existing ecology by introducing a more native, climate-adapted landscape, and create a robust network of parks and open spaces in order to provide a holistic, walkable neighborhood for the future of thousands of new workers, residents, and visitors.

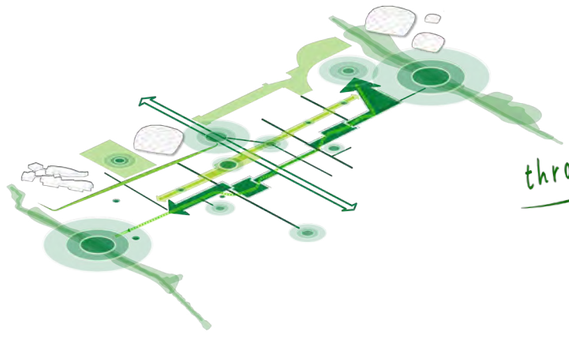
A. **Connected with Nature**
An Atypical Silicon Valley Workplace

for a more Sustainable Future

C. **Expanded, Integrated Community**
Future Workers, Residents, Visitors

Evolving the Office Campus

B. **Network of Cherished Open Spaces**
Ecological Transformation



through Environmental Transformation

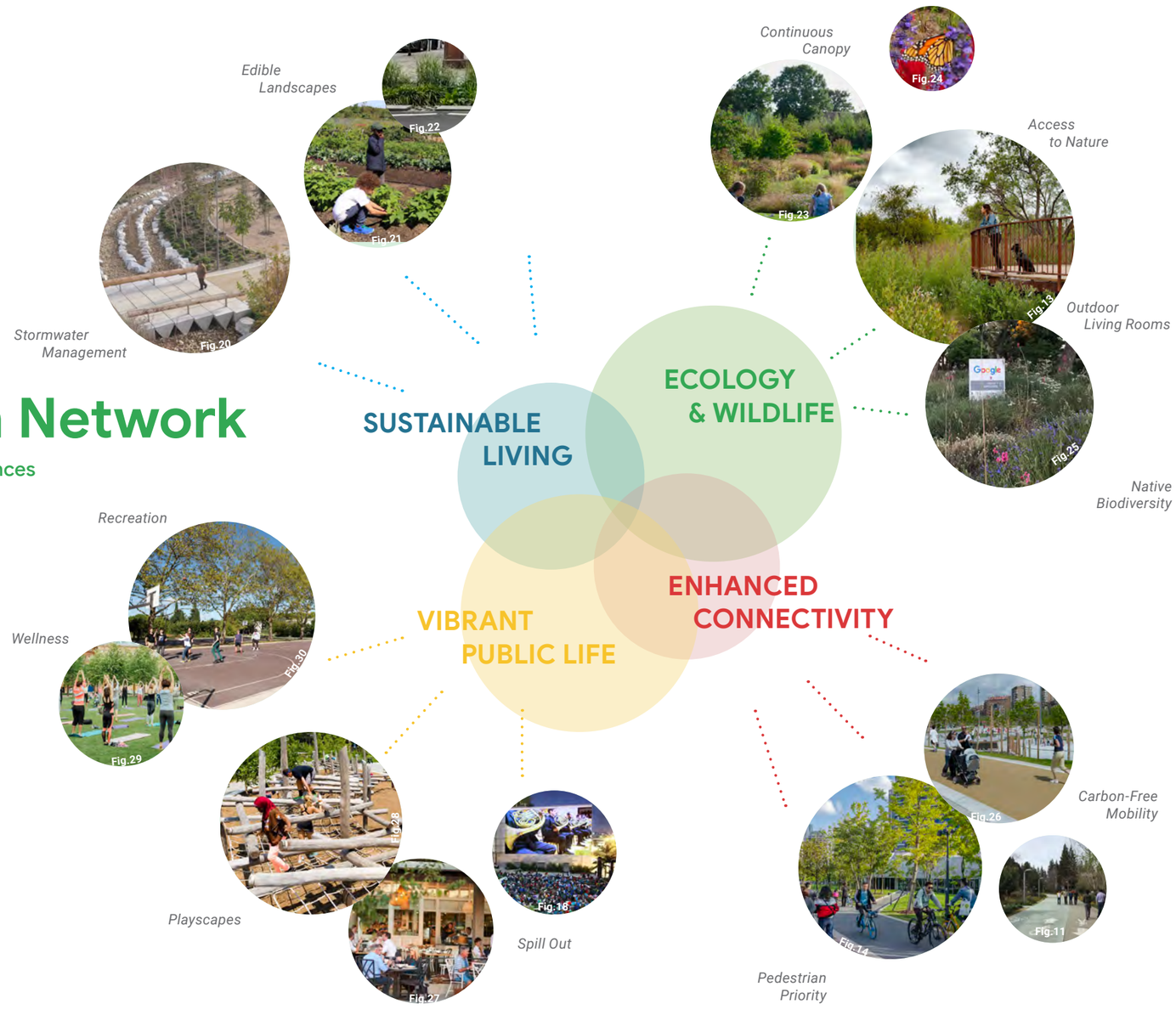
E1.10. Parks & Open Space Network

Layering the 4 Principles

Landscape Vision

North Bayshore's parks and open space network is a non-traditional network - a carefully and intentionally layered system. It integrates (1) ecology & wildlife (2) sustainable living, (3) enhanced multi-modal pedestrian-focused connectivity, (4) diverse sequence of community programming and vibrant public life.

By integrating these four principles, North Bayshore draws community and nature together to experience a new typology of nature-based urbanity. The vision combines the site's established ecologically-rich assets with its spirit of innovation and cultural presence to create a future district that is contextual yet unique and multi-faceted.



The Green Network

Diverse Sequence of Experiences


Create a community for the 21st century, built on a
Deep Commitment to the Unique Natural Environment of NBS

E1.11. Towards Ecological Transformation

The Master Plan's Sustainability Goals

Ecology Fundamentals

The Master Plan strives to create and protect abundant, high-quality, and connected ecologies that improves the health and experience of future workers, residents, and visitors - within the Master Plan Area and surrounding communities beyond.

Quantity

Integrating abundant vegetation into the urban fabric

Size

Regenerating and protecting large areas as patches and

Quality

Supporting and restoring diverse native ecosystems

Connections

Creating connected and accessible nature networks

E1.12. For a More Sustainable Future

North Bayshore's Land-use Change

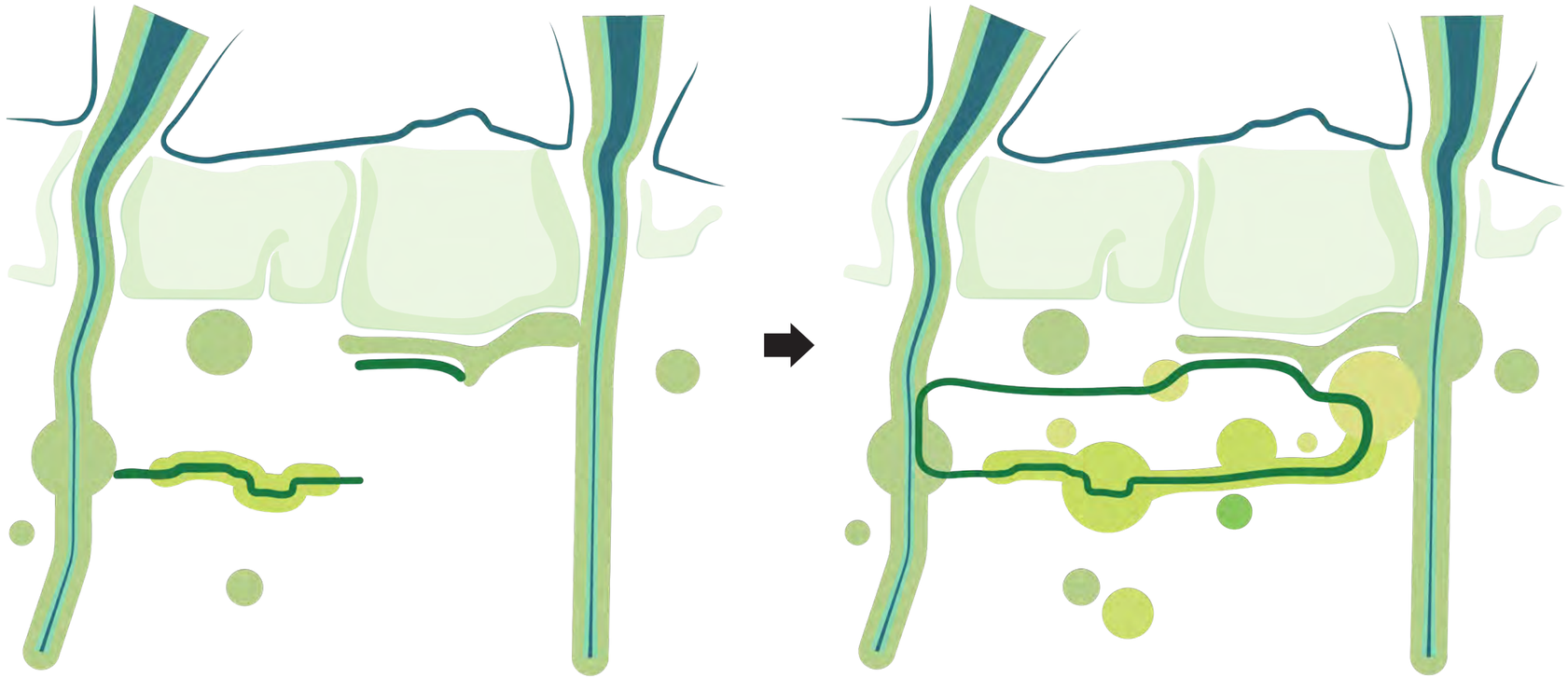
Ecology-focused Urbanism

Today, the site is composed of a fragmented park and open space network, embedded in an industrial office park domain. Between the ecologically-rich bay edge and the heart of Mountain View, there are few parks; creating an urban tissue that lacks pedestrian connectivity and ample open space amenities.

Tomorrow, North Bayshore Master Plan aims to enhance and transform Mountain View's urban tissue into an interconnected and expanded public realm - focused on integrating nature and ecology, pedestrian connectivity, and human comfort into the built environment for the future of thousands of new workers, residents, and visitors.

The vision for North Bayshore that informs this Master Plan is therefore one of changed priorities: from auto centric to people centric, from people or nature to people and nature, from solely office to mixed-use, and from the stasis of prescribed office hours to the vibrancy of life before, during and after work. It represents an optimism, both needed and well-founded, for this place and this time, and an intention towards a more sustainable environment.

Concept Doodle



TODAY'S SITUATION

Fragmented Park & Open Space Network

TOMORROW'S TRANSFORMATION

Connected Park & Open Space Network, Tied back to the South Bay

E1.13. Expanding the Living Ecosystem

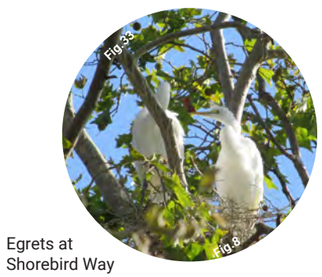
Existing Wildlife and Native Species

Nature as Placemaking

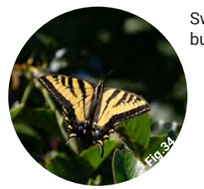
North Bayshore aims to embrace and enhance local ecology to foster a sense of place, distinctiveness rooted in the landscape and ecological DNA. Enhancing existing flora and fauna will provide a more robust ecosystem for local species. In doing so, the vision brings back elements of lost ecosystems unique to the valley floor.

Acorn Woodpecker

Pollinator bees



Egrets at Shorebird Way



Swallowtail butterflies

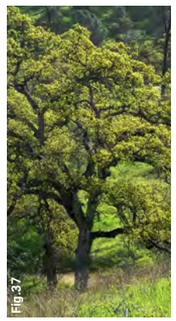
Monarchs at Green Loop

Townsend's warblers at Charleston Basin

FAUNA SPECIES

TREE CANOPY

COAST LIVE OAK
Quercus agrifolia

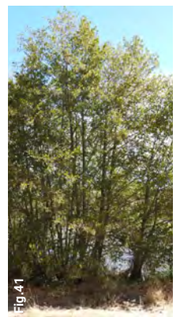


VALLEY OAK
Quercus lobata

BUCKEYE
Aesculus californica

CALIFORNIA SYCAMORE
Platanus racemosa

FREMONT COTTONWOOD
Populus fremontii



WHITE ALDER
Alnus rhombifolia

BOX ELDER
Acer negundo

RED WILLOW
Salix laevigata

ARROYO WILLOW
Salix lasiolepis

Large Scale (25'-50' canopy diameter)

Medium Scale (18'-30' canopy diameter)

Small Scale (10'-15' canopy diameter)

Urban Green
Upland | Oak Woodland & Savanna
Green Corridors & Streetscape

Greenway
Riparian Transition | From Upland to Woodland
Greenway Open Spaces

Ecology Patch / Nature Park
Wetland / Willow Grove
Charleston Basin / Eco Gem

E1.14. Enhancing the Ecological Spectrum

Native Plant Communities

Urban Nature Biodiversity

Situated at the South Bay edge, the site takes a sensitive position to four main ecological conditions that prevail in the area, and lies at the heart of our landscape design response. Outside of the Master Plan boundary, the estuarine bay edge comprises of a mix of tidal salt marsh, man made salt ponds, and restored wetlands.

Within the North Bayshore Master Plan, riparian forests will occupy the Eco Gem. This ecological condition will feature Willow Groves, at or near the water table, saline tolerant willow species (salix var.) and thick understory. Typically, these species accumulate around creek corridors and other areas with shallow groundwater.

Throughout the open space envelope, native wildflowers and perennials will be integrated as an important part of the landscape from lower wet meadows to higher savannas, having a tangible seasonal influence with splashes of color and providing ecosystems for Monarch butterflies.

Oak Savanna occurs at higher elevation. Here, a mix of native oak species dominate the historical landscape in an effort to reintroduce where possible in open spaces and along streets.


Fig.45

WEST MEADOWS


Fig.46

RIPARIAN FOREST / WILLOW GROVES


Fig.47

NATIVE MEADOW


Fig.48

OAK SAVANNAH

E1.15. Creating a Robust, Ecologically-Rich Open Space Network

Landscape Performance for Ecological Transformation

Landscape Aspirations

Over time, North Bayshore will be transformed to provide a robust, ecologically-rich park and open space network. This network will provide human-centric connectivity not only on a district neighborhood scale but also on a regional scale, from the urban tissue of Mountain View to the South Bay edge. At the same time, the enhanced landscape will create a critical piece of social infrastructure for future workers, residents and visitors.

Each of the 10 parks and open spaces in the Master Plan shall meet the district's ecological goals and contribute to overall performance targets such as connecting existing riparian ecosystems to new ecology patches, creating a robust landscape matrix that fills the gaps and delivers new benefits to the ecosystem, and improving connectivity of nature-based corridors for both people and wildlife.

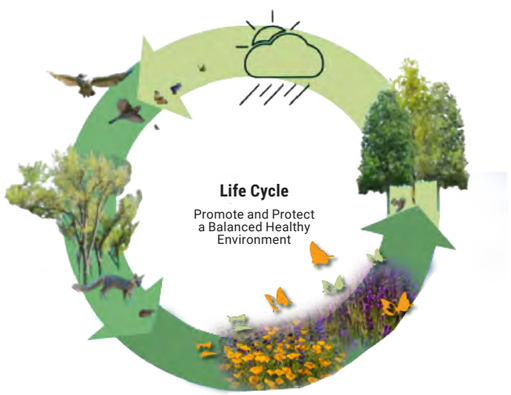
Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

E1.16. Expanding on the Site's Urban Ecology

Today's Multi-modal, Ecologically-rich Corridor

The Green Loop

Establishing an extended and expanded Green Loop network and enhancing the value of its canopy and native ecologies, while supporting biodiversity within a high-density urban context is paramount to creating an ecologically beneficial landscape design.



E1.17. Landscape Objectives

01 **Foster Vibrant Public Life**

Provide an open space network that will serve a growing community. Distribute a myriad of functions and design features that support a vibrant, inclusive and inspiring public realm for thousands of new residents, workers, and visitors.

02 **Enhance North Bayshore's Rich Ecology**

Establish a public realm that is rooted in place, benefitting both humans and nature. Provide parks, plazas, and open spaces that build upon the site's existing ecological assets and landscape identity. Develop a planting strategy that creates a richer and more sustainable environment suited for current and future conditions.

03 **Establish an Interconnected Public Realm**

Improve visibility, access, and connectivity to nature on all regional and project scales - to the Bay at large, the community of Mountain View, between the Permanente Creek and Stevens Creek, and across the district's neighborhoods and their open spaces, prioritizing pedestrians, encouraging increased cycling and reducing car-dependency.

04 **Inspire a Future of Sustainable Living**

Create an environment for humans and nature to thrive together within a diverse ecological spectrum. Adopt best practices in sustainability and nature-based solutions to create a high-performing urban landscape that is future proof, resilient and low carbon.

Foster Vibrant Public Life

Landscape Objective 01

Provide an open space network that will serve a growing community. Distribute a myriad of functions and design features that support a vibrant, inclusive and inspiring public realm for thousands of new residents, workers, and visitors.

Outdoor Living Rooms

Informal Recreation

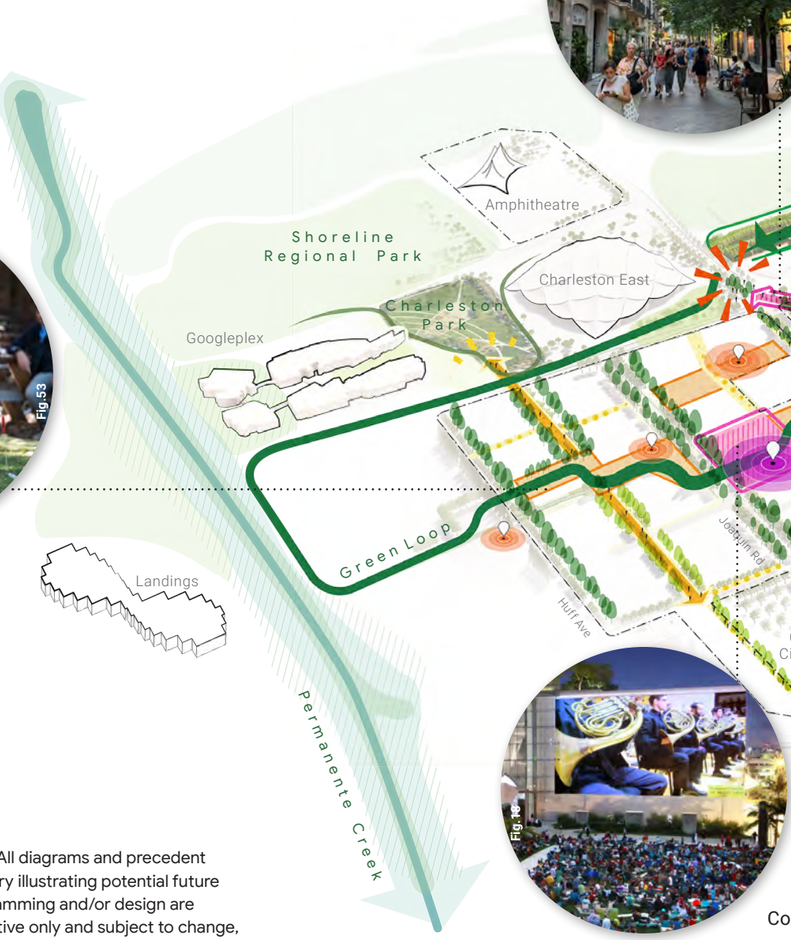
Active Passage

Nature Play

Pop Up

Art & Installation

Community Events



Key

- HIGHLY PROGRAMMED ACTIVE GATHERING,
- MEDIUM PROGRAMMED, INTIMATE AND PASSIVE
- LOW PROGRAMMED, NATURE IMMERSIVE
- PEDESTRIAN CORRIDORS
- MULTI-USE TRAIL (GREEN LOOP)
- NODES OF ACTIVITY / COMMUNITY DESTINATION
- ACTIVATED INTERSECTIONS / KEY CONNECTIONS

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

Foster Vibrant Public Life

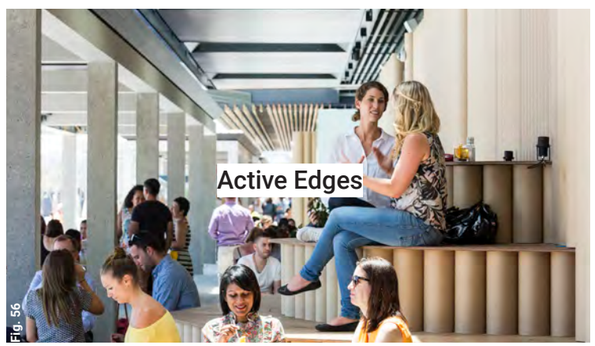
Landscape Objective 01

SERVING THE COMMUNITY

The North Bayshore will grow and evolve to welcome thousands of new workers, residents, and visitors - to live, work, and play in a complete district. The vision is to create a diverse, inclusive neighborhood, nurturing a strong sense of community among all members.

Social infrastructure is a critical component of the new, robust network of parks and open spaces. The network will offer the community a wide array of programmatic experiences, on a spectrum of ecologically-focused to socially-focused, in order to foster a vibrant public life. These offerings will provide both moments of restored relaxation and playful discovery, redefining a traditional way of living and working.

The vision is to provide spaces that allow people to facilitate meaningful interactions, integrate themselves into a broader community, promote forward-thinking inspiration, and be immersed in joyful, healthy experiences.



Enhance North Bayshore's Rich Ecology

Landscape Objective 02

Establish a public realm that is rooted in place, benefitting both humans and nature. Provide parks, plazas, and open spaces that build upon the site's existing ecological assets and landscape identity. Develop a planting strategy that creates a richer and more sustainable environment suited for current and future conditions.

Bay Ecosystem

Performative Landscape

Egret Rookery

Botanic Display

Native Biodiversity

Key

- NODES OF ECOLOGICAL RICHNESS
- EXISTING RIPARIAN CORRIDOR
- PROPOSED NATURE PARK
- PROPOSED LARGE ECOLOGY PATCH (ECO GEM)
- PROPOSED NEIGHBORHOOD PARKS
- PROPOSED DISTRICT SCALE COMMUNITY PARKS
- PROPOSED POCKET PARKS & PLAZAS

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

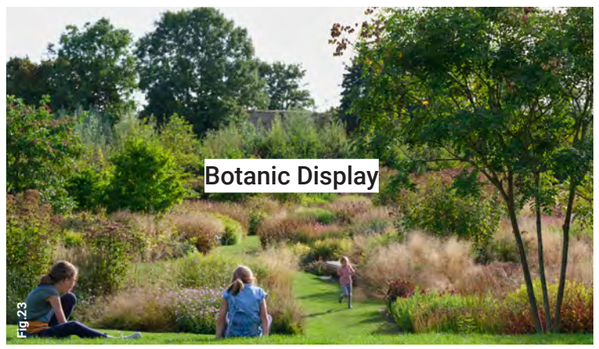
Enhance North Bayshore's Rich Ecology

Landscape Objective 02

ECOLOGY OF PLACE

Today, North Bayshore possesses many unique landscape qualities such as a rich Bay edge ecosystem, regional parks, nature preserve areas, native ecologies and wildlife preservation areas, continuous tree canopy, and ecological biodiversity. The Master Plan vision enforces that a spirit of place is intrinsically linked to the landscape qualities of the site today.

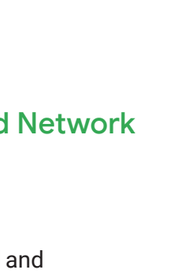
Traditionally, urbanism and ecology are seen as separate, often competing interests. However, the Master Plan seeks to embrace the concept of creating an ecology of place, a blending of the two, as a guiding principle. This approach of ecological transformation for a more sustainable future suggests that some places should and can have it both ways—bringing people to nature, and nature to city dwellers.



Establish an Interconnected Network

Landscape Objective 03

Improve visibility, access, and connectivity to nature on all regional and project scales - to the Bay at large, the community of Mountain View, between Permanente Creek and Stevens Creeks, and across the district's neighborhoods and their open spaces. Within the Master Plan, the active mobility network prioritizes pedestrians, enables walking to work and daily-life activities, encourages increased cycling, and reduces car-dependency. This network not only allows people to connect to nature and ecology, but allows people to connect to people and destinations.



Creek Trails

Key

- MULTI-USE TRAIL (GREEN LOOP)
- PEDESTRIAN SPINE
- PRIMARY MULTI-MODAL BOULEVARD
- E/W NEIGHBORHOOD STREET
- N/S NEIGHBORHOOD STREET
- PEDESTRIAN-FOCUSED MIDBLOCK BREAK
- EXISITING TRANSIT STOPS
- PARKING
- PARK NETWORK: DEDICATED PARK OR POPA
- PARK NETWORK: DEDICATED PARK

South Bay Regional Trail

Charleston Retention Basin Trail

Pedestrian-focused Passages

Park Network

1. Joaquin Terrace
2. Joaquin Commons
3. The Portal
4. Joaquin Grove
5. Shorebird Square
6. Greenway Park
7. Shorebird Wilds
8. Eco Gem
9. Shoreline Square
10. Gateway Plaza

Landscape-Buffered Cycle Tracks

Continuous Ped & Bike Loop

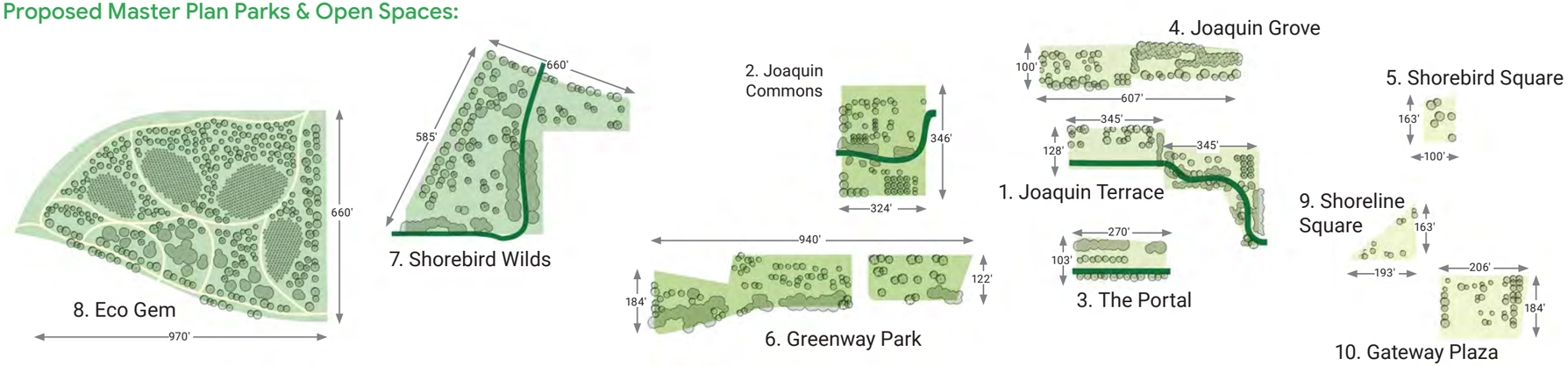
Commuter Biking

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

The 10 Parks of the Proposed Open Space Network

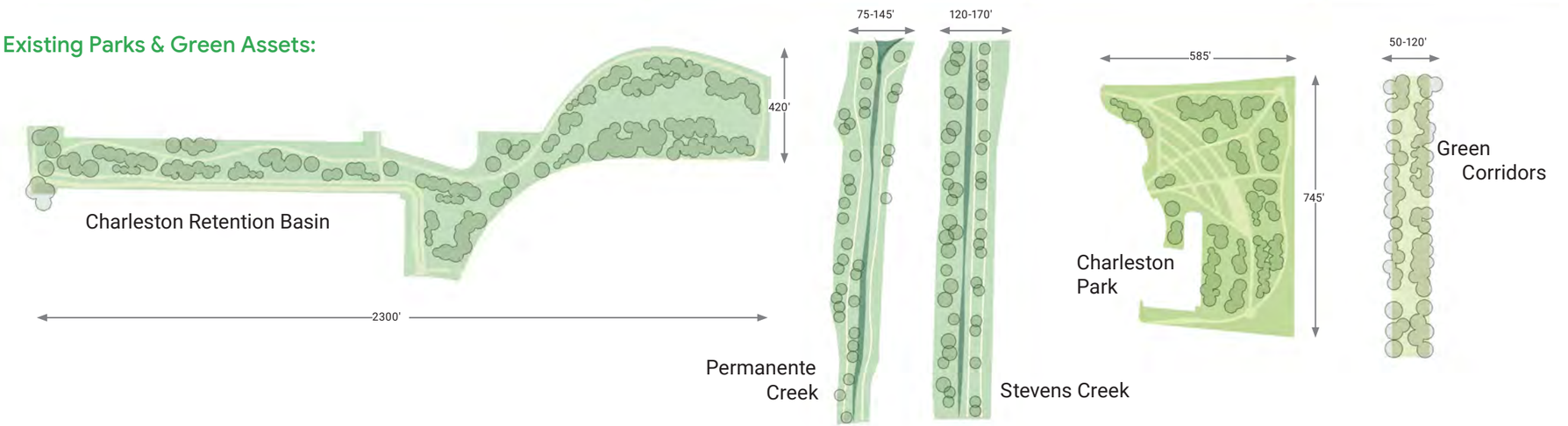
Gradient of Ecologically-focused to Socially-focused

Proposed Master Plan Parks & Open Spaces:



NATURAL AREAS / NATURE PARKS	DISTRICT-SCALE COMMUNITY PARKS	NEIGHBORHOOD PARKS	POCKET PARKS & PLAZAS
15.2 acres total proposed	5 acres total proposed	4.3 acres total proposed	1.5 acres total proposed

Existing Parks & Green Assets:



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Inspire a Future of Sustainable Living

Landscape Objective 04

Create an environment for humans and nature to thrive together within a diverse ecological spectrum. Adopt best practices in sustainability and nature-based solutions to create a high-performing urban landscape that is future proof, resilient and low carbon.

Native Biodiversity &
Drought-tolerant Species

Ecological
Demonstration Activities

Planting Rotation

Tree-Shaded
Microcosms

Biotreatment
Demonstration

Green Streets &
Shade Pavement

Key

- EXISTING RIPARIAN CORRIDOR
- EXISTING NATURAL AREA / NATURE PARK
- EXISTING PARK
- PROPOSED PARK NETWORK
- GREEN LOOP
- GREEN CORRIDORS
- ECOLOGICAL DEMONSTRATION

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

Inspire a Future of Sustainable Living

Landscape Objective 04

TOWARDS A SUSTAINABLE FUTURE

Over time, the North Bayshore Master Plan will make leaps towards a more sustainable future by adopting best-practices in sustainability and applying nature-based solutions wherever possible.

Across the Master Plan, and specifically within the parks and open space network, the site design will employ careful approaches that combat climate change and heat island effect, provide landscapes resilient to both storm surge and drought, manage the use and recycling of on-site water, foster biodiversity that improves threats against declining wildlife populations, nurtures environmental education and material reuse, promotes carbon-free mobility, and more.

A Multi-Layered Framework Plan

Dissecting the Elements

05 | Vibrant Public Life
Activating the Public Realm

Active Uses:	289k sf

04 | Built Form
Total Development:

Residential:	7,000 du
Office:	3.1m sf

03 | Ecology
Proposed Planting

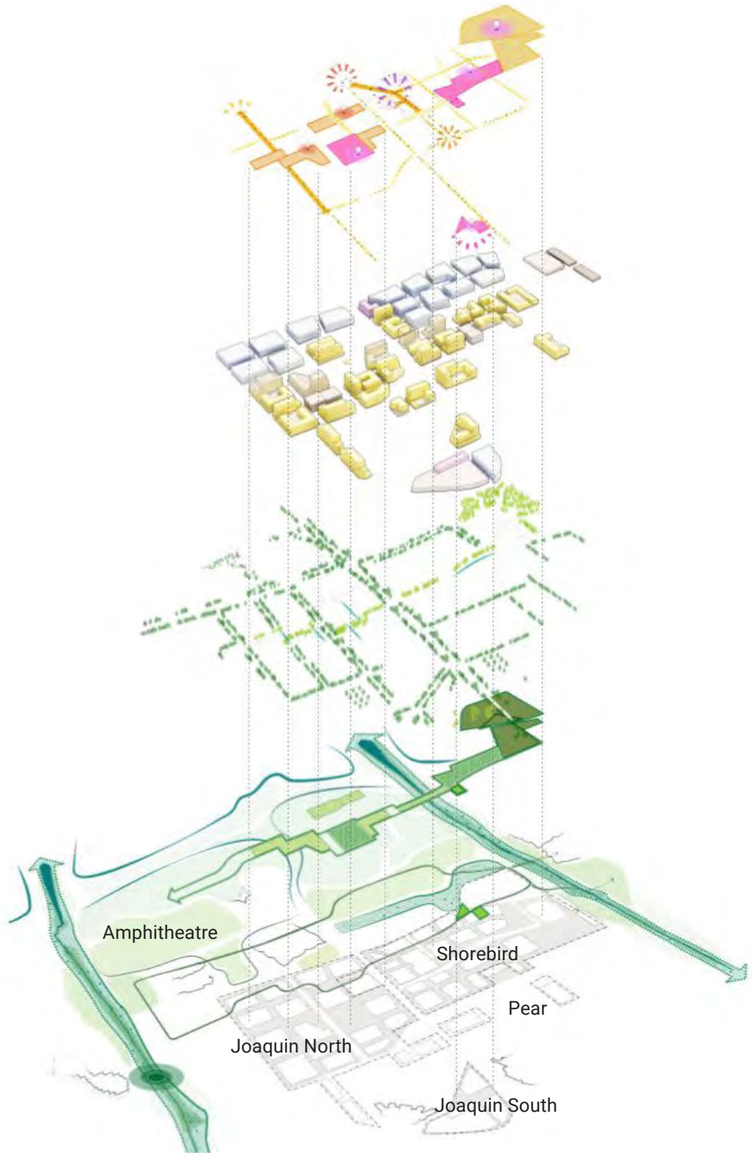
Ecology Patch:	10.8 ac (Eco Gem)
Nature Park:	4.5 ac (Shorebird Wilds)

02| Parks & Open Space

Total OS Area:	26.1 acres
OS % of Total MP:	17%

01 | Project Site

Master Plan Site Area:	153 acres
Joaquin North + South:	56.3 ac
Shorebird:	68.9 ac
Pear:	4.4 ac
Amphitheatre:	14.1 ac
Marine:	9.1 ac



Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

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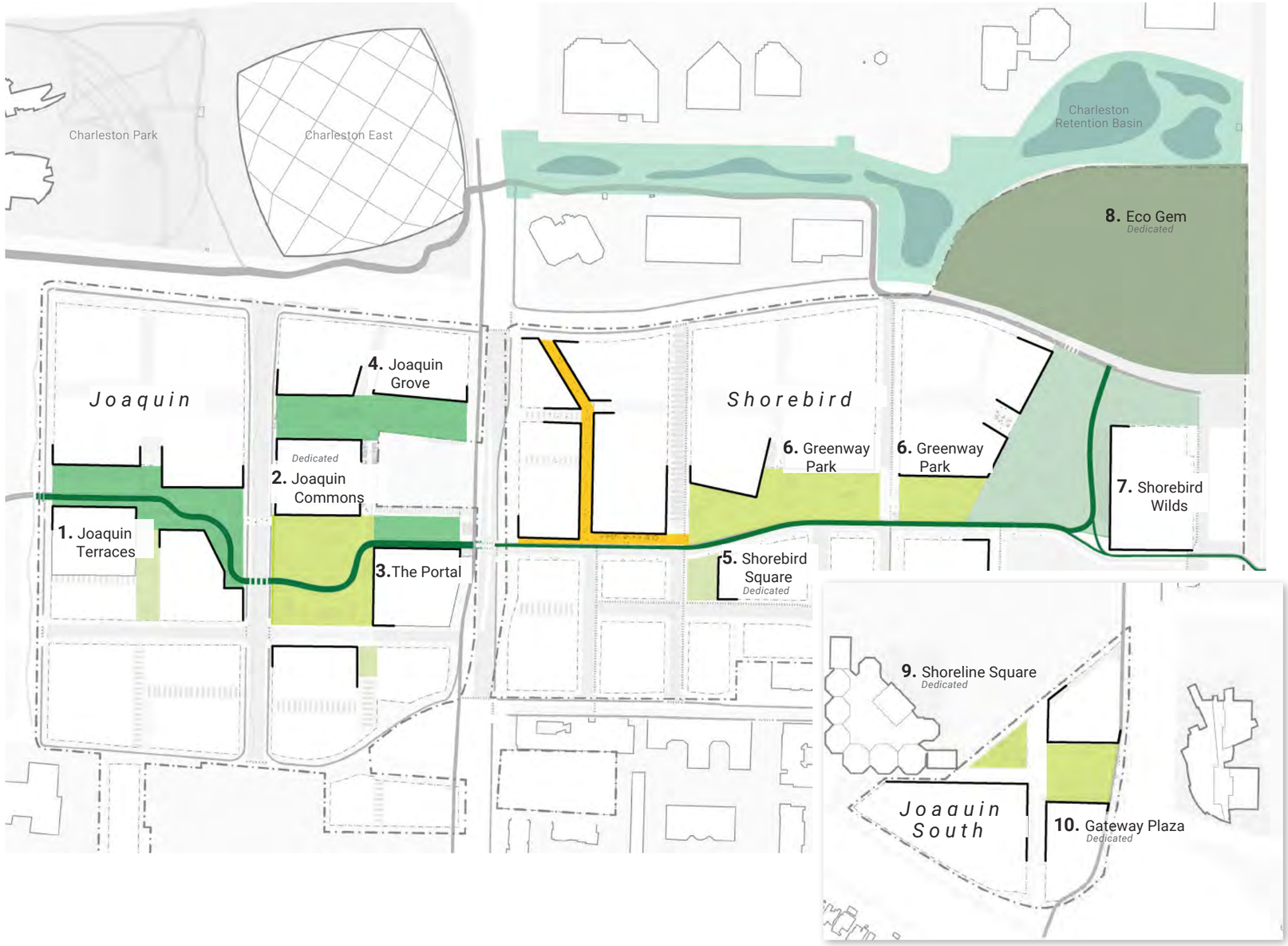
CHAPTER 2

Programmatic Summary

Illustrative Simulation

Key

- EXISTING NATURAL AREAS
- NATURAL AREA / NATURE PARK
- NATURE PARK
- COMMUNITY PARKS
- NEIGHBORHOOD PARKS
- POCKET PARKS & PLAZAS
- COURTS
- SOCIAL SPINE
- GREEN LOOP



Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

E2.1. Programmatic Overview

Joaquin Neighborhood

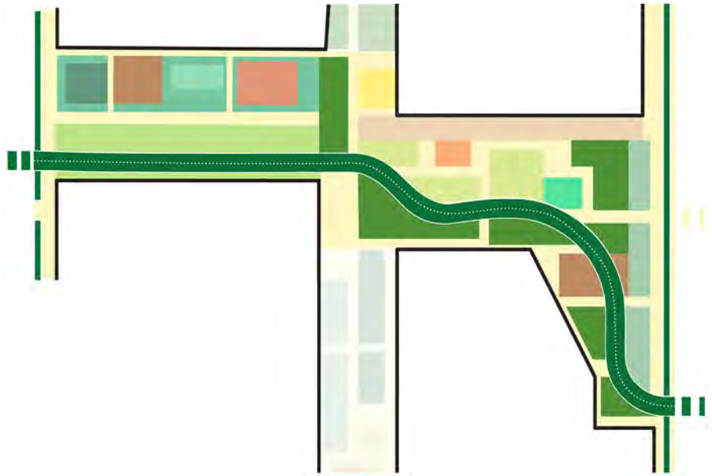
Open Space Summary

Key Map

Key

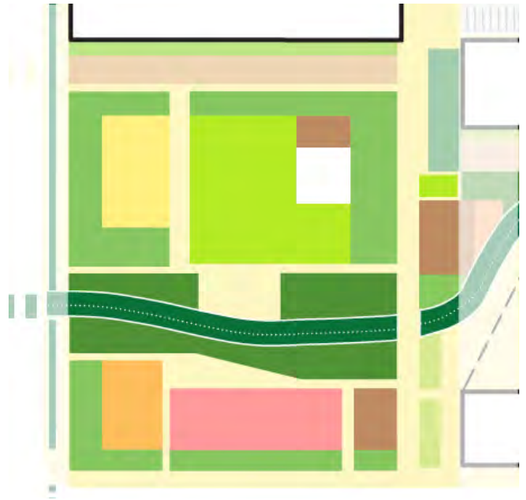
- GREEN FRONTAGE/ RESI BUFFER
- UPLAND FOREST MIX
- NATIVE-FOCUSED PLANTING BED
- COMMUNITY GARDEN
- FLEX LAWN
- GREEN PLANTER WITH SEAT EDGE
- OUTDOOR LIVING ROOM
- DOG PARK
- UNDERSTORY PERENNIAL PLANTING
- BOARDWALK/ TERRACE
- PROGRAM DECK
- EXERCISE AREA
- ECOLOGICAL DEMONSTRATION
- RECREATION FIELD
- SOCIAL GATHERING
- MULTI-USE TRAIL / GREEN LOOP
- SOCIAL SEATING
- PLAYSCAPE
- HARDSCAPE / WALKING PATHS
- PUBLIC ART
- NEIGHBORHOOD COURT
- NATURE PLAY

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,



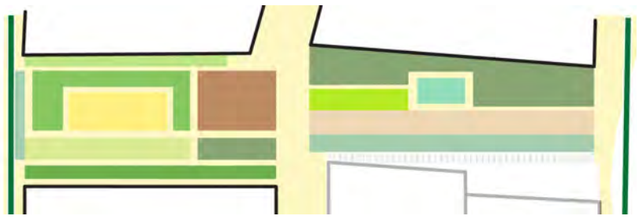
01 | Joaquin Terrace, POPA

Narrative: Confluence Area, Workplace Spill-out & Amenities
Size: 2.2 ac
Key Features: Continuous Canopy Corridor (Upland Forest Mix), Dog Park, Multi-use Trail / Green Loop, Open Usable Field / Flex Lawn, Playscape, Recreation Field (Game Court)



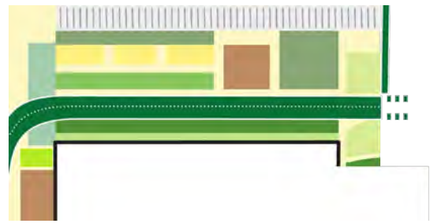
02 | Joaquin Commons, Dedicated

Narrative: Vibrant Community Space, Diversity of Play, Recreation, & Gathering
Size: 2.5 ac
Key Features: Continuous Canopy Corridor (Upland Forest Mix), Dog Park, Multi-use Trail / Green Loop, Open Usable Field / Flex Lawn, Playscape, Neighborhood Court (Picnic Area)



03 | Joaquin Grove, POPA

Narrative: Outdoor Living Rooms, Intimate & Passive Microcosms
Size: 1.4 ac
Key Features: Continuous Tree Canopy Corridor (Upland Forest Mix), Outdoor Living Rooms



04 | The Portal, POPA

Narrative: Welcome Arrival, Activated Promenade
Size: 0.8 ac
Key Features: Continuous Tree Canopy Corridor (Upland Forest Mix), Outdoor Living Rooms, Multi-use Trail / Green Loop

Shorebird & Gateway Neighborhood

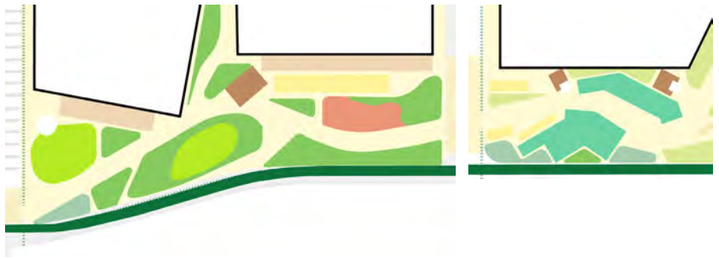
Open Space Summary

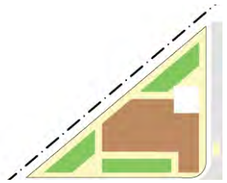
Key Map

Key

- GREEN FRONTAGE/ RESI BUFFER
- UPLAND FOREST MIX
- NATIVE-FOCUSED PLANTING BED
- COMMUNITY GARDEN
- FLEX LAWN
- GREEN PLANTER WITH SEAT EDGE
- OUTDOOR LIVING ROOM
- DOG PARK
- UNDERSTORY PERENNIAL PLANTING
- BOARDWALK/ TERRACE
- PROGRAM DECK
- EXERCISE AREA
- ECOLOGICAL DEMONSTRATION
- RECREATION FIELD
- SOCIAL GATHERING
- MULTI-USE TRAIL / GREEN LOOP
- SOCIAL SEATING
- PLAYSCAPE
- HARDSCAPE / WALKING PATHS
- PUBLIC ART
- NEIGHBORHOOD COURT
- NATURE PLAY

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,





05 | Shorebird Square, Dedicated

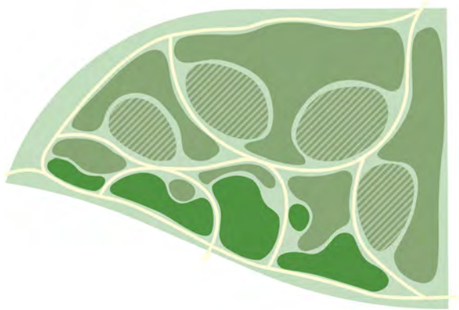
Narrative: Pocket Park, Community Gathering & Flex Space
Size: 0.3 ac
Key Features: Playscape

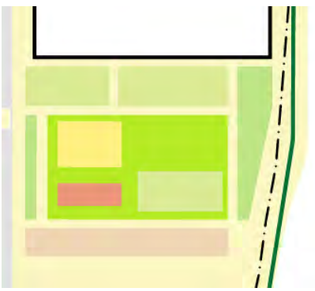
06 | Greenway Park, POPA

Narrative: Linear Park, Recreation Fields, Playscapes, and Large-scale Gathering Spaces
Size: 2.4 ac
Key Features: Playscape, Open Usable Field / Flex Lawn, Multi Use Trail, Outdoor Living Room, Exercise Area

07 | Shoreline Square, Dedicated

Narrative: Entertainment Anchor, Programmable Zone for Art, Installation, & Events
Size: 0.3 ac
Key Features: Continuous Tree Canopy Corridor (Upland Forest Mix), Open Usable Field / Flex Lawn, Outdoor Living Room, Neighborhood Court (Picnic Area)





08 | Shorebird Wilds, POPA

Narrative: Nature Park, Native Biodiversity Meadows & Education / Art Opportunities
Size: 4.5 ac
Key Features: Multi-use Trail / Green Loop

09 | Eco Gem, Dedicated

Narrative: Ecological Park, Immersive Nature Experience & Multi-use Trail Network
Size: 10.8 ac
Key Features: Multi-use Trail

10 | Gateway Plaza, Dedicated

Narrative: Entertainment Anchor, Social Gathering Space & Activated Flex Lawn
Size: 0.9 ac
Key Features: Continuous Tree Canopy Corridor (Upland Forest Mix), Open Usable Field / Flex Lawn, Outdoor Living Room, Neighborhood Court (Picnic Area)

Create a place that combines life around every corner at the intersection of urban and natural

Building an Interconnected Network of Vibrant Public Life


Fig. 73


Fig. 74


Fig. 75


Fig. 76


Fig. 77

E2.2. Parks & Open Space Toolkit

City of Mountain View Requirements

Program & Use Components

RECREATION FIELD (GAME COURTS)

A neighborhood amenity designated for active recreational use such as various sports, accommodating healthy living. Per CMV, game courts shall meet the standards of the professional association for the type of activity proposed.

PLAYSCAPE & NATURE PLAY (PLAYGROUND)

A type of neighborhood amenity provided for children, which per CMV, shall include at least 2 climbable structures (one for ages 2-5 and one for ages 5-12).

EXERCISE AREA

A community amenity that must be able to support ten (10) people using equipment at the same time and include ADA-accessible equipment.

NEIGHBORHOOD COURT (PICNIC AREA)

A neighborhood gathering space that can accommodate a mix of community program uses such as barbequing and seating areas. Per CMV, the area must be able to sit at least 15 individuals and have one barbecue for every 2 tables.

OPEN USABLE FIELD / FLEX LAWN

A flexible lawn that must be level, with proper irrigation and water amenities to support active field recreation. Minimum total area of 0.3 acre with a minimum dimension of sixty (60) feet on all sides of the element.

TREE GROVE (MAINTAINED NATURAL HABITAT SPACE)

A tree grove allows for passive programming and provides shade under a dense tree canopy. Per CMV, the area shall provide 65-75% tree canopy coverage within 5 years of construction completion, and all species must be California natives. The area shall accommodate seating for at least 10 people and tailor to all population demographics.

OUTDOOR LIVING ROOM (MAINTAINED NATURAL HABITAT SPACE)

A space for botanic display, pollinator gardens and pockets of social seating to be interwoven, providing moments to be immersed in nature while in an urban setting. Per CMV, the area shall provide 65-75% tree canopy coverage within 5 years of construction completion, and all species must be California natives. The area shall accommodate seating for at least 10 people and tailor to all population demographics.

MULTI USE PARK TRAIL

Per CMV, designated, multi-use, class 1 (as listed in the Caltrans Highway Design Manual-Bikeway Designations) routes that provide clear and direct access between program elements. Trails can be treated with different paving materials depending on a more park-like or urban plaza-like context. These paths can also be programmed for health, fitness, and wellness courses.

DOG PARK

Dog park has separate areas for large dogs and small dogs. Adequate amenities such as bag dispensers and dog-friendly hydration stations. Minimum total area of 0.25 acre for the dog park with a minimum dimension of sixty (60) feet on all sides of the element.

Softscape

Program & Use Components

SOFTSCAPE

Denotes proposed planted areas.

EXISTING PLANTING BED

Existing planting that will remain largely untouched with proposed additions of perennial planting, thereby protecting and enhancing existing ecology.

PERENNIAL DISPLAY / UNDERSTORY PLANTING

An understory planting strategy can include pollinator gardens, botanical displays, hedges, and edge planters to benefit local ecology.

CONSERVATION AREA

An area where existing trees and planting will be protected, and new trees planted to both protect and enhance existing ecology and habitat.

GREEN PLANTER

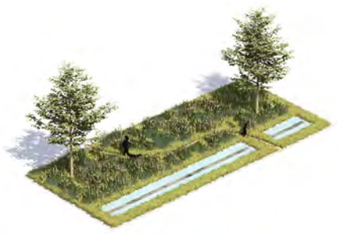
A type of planter that may provide seating edges.

FLEX LAWN

A flexible space that can accommodate a variety of different programmatic uses, such as informal play, recreation, picnicking, gathering, movie screenings, performances.

COMMUNITY GARDEN

A neighborhood amenity that provides educational and volunteering opportunities around topics of food and nutrition.



STORMWATER DETENTION/ ECOLOGICAL DEMONSTRATION

An area designated to collect stormwater runoff and where naturalized, green infrastructure systems are openly visible. The systems raise awareness of how critical environmental, natural habitats functions and infrastructure are interdependent.

GREEN FRONTAGE / STOOP

A type of planting bed that provides a green buffer along residential frontages.

Hardscape & Elements

Program & Use Components

HARDSCAPE

Denotes proposed paved areas.

PROGRAM DECK

A place for informal gathering with social seating arrangements. Often an extension of retail spaces, it can also host temporary program uses.

BOARDWALK / TERRACE

A place for informal gathering with flexible seating. Often an extension of active ground floor uses, it blurs the interface between buildings and adjacent open space.

CUBERT

A type of small, open space structure that brings micro retail to larger open spaces, bringing an intimate scale and activating key locations.

PUBLIC ART

Art elements to be observed but can also be played on and interacted with. These can be landmarks or artifacts in the landscape and act as orientation devices.

SOCIAL SEATING

Types of seating elements that create an informal gathering space, providing moments of pause and activity within larger open spaces.

SOCIAL GATHERING

A small area with social seating often situated adjacent to the active ground floor is used to encourage spill out from inside the building out to the open space.

SHADE STRUCTURE

A trellis, pergola, or other structure that provides an alternative to tree canopies and brings an intimate scale to large open spaces.

KIOSK / PAVILION

An occupiable—serviced or unserviced—open space structure that provides diverse programming while also serving as an orientation device in the landscape.

E2.3. Programmatic Design Drivers

Open Space Elements

Nature-Immersed Experiences for All

The open space network at North Bayshore is a framework for facilitating a broad range of human experiences - ranging from active to passive, community gathering to solo contemplation - that all take place within the enhanced urban ecosystem of the South Bay.

PROGRAM TOOLKIT

The programmatic potential and indicative uses within each open space are illustrated on the following pages. Indicative design intent for the character and atmosphere of each open space is articulated through the use of a Program Toolkit. This toolkit consists of two parts: required programmatic elements (per CMV) as well as additional complementary elements. These complementary elements are further subdivided into softscape, hardscape and elements (such as kiosks).

The toolkit approach permits replicability while offering a unique experience within each open space, as illustrated by the specific curated selection and placement of these programmatic drivers.

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

PROGRAMMATIC SUMMARY

TABLE E2.1 OPEN SPACE PROGRAM & ELEMENTS SUMMARY

PROGRAMMATIC ELEMENTS	OPEN SPACE									
	JOAQUIN			SHOREBIRD					GATEWAY	
	Joaquin Terrace	**Joaquin Commons**	**The Portal**	**Joaquin Grove**	**Greenway Park**	**Shorebird Wilds**	**Shorebird Square**	**Eco Gem**	**Gateway Plaza**	**Shoreline Square**
Program Deck	●	●	●	●	●		●			●
Boardwalk / Terrace	●	●	●	●	●				●	
Flex Lawn,Small				●	●					
Social Gathering	●	●			●	●				
Recreation Field (Game Courts)	●			●	●					
Playscape / Nature Play (Playground)		●			●		●			
Neighborhood Court (Picnic Area)		●					●		●	
Native Planting Bed with Continuous Tree Canopy	●	●	●		●	●				
Outdoor Living Room (Natural Space)	●	●		●	●				●	
Understory Perennial Planting		●		●		●		●		●
Community Garden	●									
Green Frontage / Resi Buffer		●	●	●					●	
Biotreatment Demonstration	●	●	●	●	●					
Green Planter		●								
Continuous Canopy Corridor, Upland Forest Mix	●	●		●						
Conservation Area		●						●		

Key

POPA/DEDICATED PARK

DEDICATED PARK

● TOOLKIT PROGRAMMATRIC ELEMENT

● WHERE A PARK IS DELIVERED AS A POPA, TOOLKIT PROGRAMMATIC ELEMENT THAT SATISFIES SECTION 41.11.A.2.(A)(VI) OF THE PARK LAND DEDICATION ORDINANCE

TABLE E2.2 OPEN SPACE PROGRAM & ELEMENTS SUMMARY

PROGRAMMATIC ELEMENTS	OPEN SPACE									
	JOAQUIN		SHOREBIRD						GATEWAY	
	Joaquin Terrace	**Joaquin Commons**	**The Portal**	**Joaquin Grove**	**Greenway Park**	**Shorebird Wilds**	**Shorebird Square**	**Eco Gem**	**Gateway Plaza**	**Shoreline Square**
Hardscape	●	●	●	●	●	●	●	●	●	●
Softscape	●	●	●	●	●	●		●	●	●
Social Seating	●	●	●	●	●	●			●	
Kiosk / Pavilion		●	●		●					●
Trellis / Pergola		●		●					●	●
Public Art						●				
Multi Use Trail / Green Loop	●	●	●			●		●		
Exercise Area	●				●					
Dog Park	●	●								
Open Usable Field / Flex Lawn, Large		●							●	

Delineation between POPA & Dedicated Park

Spatial Strategies


Fig. 128

LANDSCAPE BUFFER

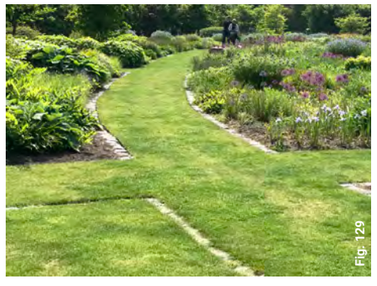


Fig. 129

BANDING


Fig. 130

MATERIAL CHANGE


Fig. 131

BANDING + LANDSCAPE BUFFER


Fig. 132

GRADE CHANGE, SOFTSCAPE


Fig. 133

GRADE CHANGE, HARDSCAPE

Key

POPA/DEDICATED PARK

DEDICATED PARK

● TOOLKIT PROGRAMMATRIC ELEMENT

● WHERE A PARK IS DELIVERED AS A POPA, TOOLKIT PROGRAMMATIC ELEMENT THAT SATISFIES SECTION 41.11.A.2.(A)(VI) OF THE PARK LAND DEDICATION ORDINANCE

PROGRAMMATIC SUMMARY

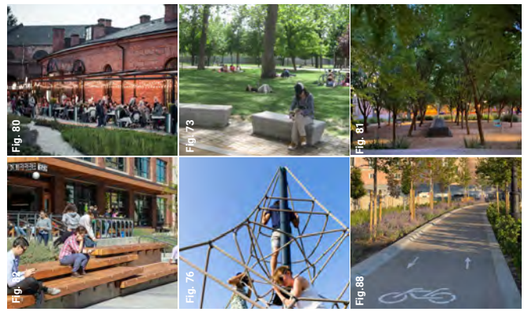
Parks & Open Spaces Character

Atmosphere Overview

Joaquin North Neighborhood

01 | WELCOME ARRIVAL

The Portal

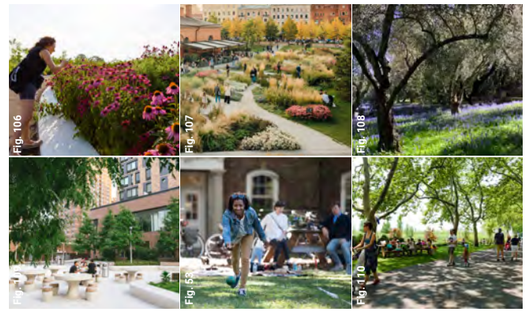


02 | MAIN COMMUNITY SPACE

Joaquin Commons

3 | CONFLUENCE AREA

Joaquin Terrace



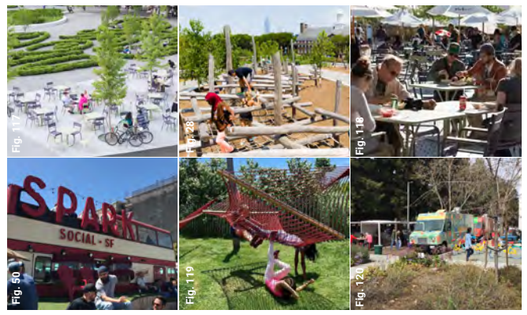
04 | OUTDOOR LIVING ROOM

Joaquin Grove

Shorebird Neighborhood

05 | LINEAR PARK & RECREATION FIELDS

Greenway Park



06 | POCKET PARK

Shorebird Square

07 | ROLLING MEADOW

Shorebird Wilds

08 | ECO PARK

Eco Gem

Joaquin South Neighborhood

09 | ENTERTAINMENT ANCHOR

Shoreline Square & Gateway Plaza

E2.4. The Portal | Welcome Arrival

Open Space Summary

Joaquin Neighborhood

INTENT

Create welcome arrival experience, integrating Green Loop to neighborhood open spaces; frame entry experience to Joaquin Commons.

CHARACTER & ATMOSPHERE

Compressed green corridor bridging Joaquin and Shorebird neighborhoods and leading to expansive, public open space at Joaquin Commons. Mix of urban and green with activated residential edges, neighborhood gathering spaces, and canopy connectivity shrouding the Green Loop, which facilitates multi-modal movement across the District.

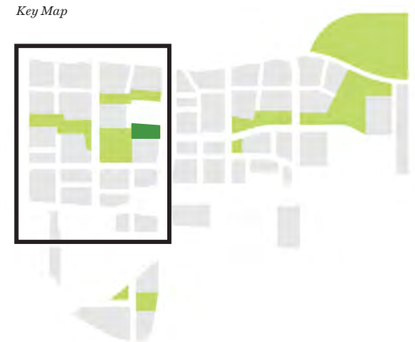
PROGRAM & USES

Green Loop and pedestrian corridor bisect the open space. Activated northern edge along residential frontage with program deck and spill out from active uses at ground floor.

OPEN SPACE DESCRIPTION

Area: ~0.8 ac
Overall Dimensions: 270’ x 129’
Ownership: POPA or Dedicated Park
Ground Floor Adjacencies: Residential (Activated Frontage)

Key Map



Key Features, satisfying CMV Requirements

Continuous Canopy Corridor, Upland Forest Mix

Outdoor Living Rooms

Multi-use Trail / Green Loop

The Portal | Welcome Arrival

Potential Program
Welcome Arrival

1 Program Deck

2 Continuous Canopy Corridor, Upland Forest Mix*

3 Multi Use Trail / Green Loop*

4 Green Frontage / Resi Buffer

5 Outdoor Living Rooms*

6 Social Gathering

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Social Gathering

Continuous Tree Canopy Corridor

SHORELINE BLVD

Multi-use Trail / Green Loop

Biodiversity Buffer

Key Map

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

E2.5. Joaquin Commons | Main Open Space

Open Space Summary

Intent

Create a central “civic heart” where Googlers, North Bayshore residents, and visitors come together; a public open space integrated with the existing Green Loop which bisects the park.

Character & Atmosphere

Large flexible open space that functions as a neighborhood heart; can accommodate a variety of programs and users for year-round activation, ranging from weekend events to passive recreation. Mix of urban and green with landmark pavilion, shaded seating areas as well as outdoor living rooms surrounded by perennials. Canopy connectivity provided along the Green Loop.

Program & Uses

Joaquin Commons North features an activated northern edge along residential frontage with program deck and spill out from active uses at ground floor and expansive, flexible gathering spaces. By comparison, Joaquin Commons South - between the Green Loop and Monarch Street - provides a varied collection of vibrant, social gathering spaces for the community and all ages.

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

OPEN SPACE DESCRIPTION

Area: ~2.6 ac
Overall Dimensions: 344’ x 323’
Ownership: Dedicated Park Land
Ground Floor Adjacencies: Residential (Activated Frontage)

Key Map

Key Features, satisfying CMV Requirements

Continuous Canopy Corridor, Upland Forest Mix

Dog Park

Multi-use Trail / Green Loop

Open Usable Field / Flex Lawn

Playscape

Neighborhood Court (Picnic Area)

Joaquin Commons | Main Open Space

Potential Program
Main Open Space

1 Recreation Field (Flex Lawn)*

2 Social Gathering

3 Continuous Tree Canopy Corridor (Upland Forest Mix)*

4 Understory Perennial Planting

5 Boardwalk / Terrace

6 Dog Park*

7 Neighborhood Court (Picnic Area)

8 Social Seating

9 Program Deck - Kiosk + Informal Seating

10 Pavilion

11 Multi Use Trail (Existing Green Loop)*

12 Green Frontage / Resi Buffer

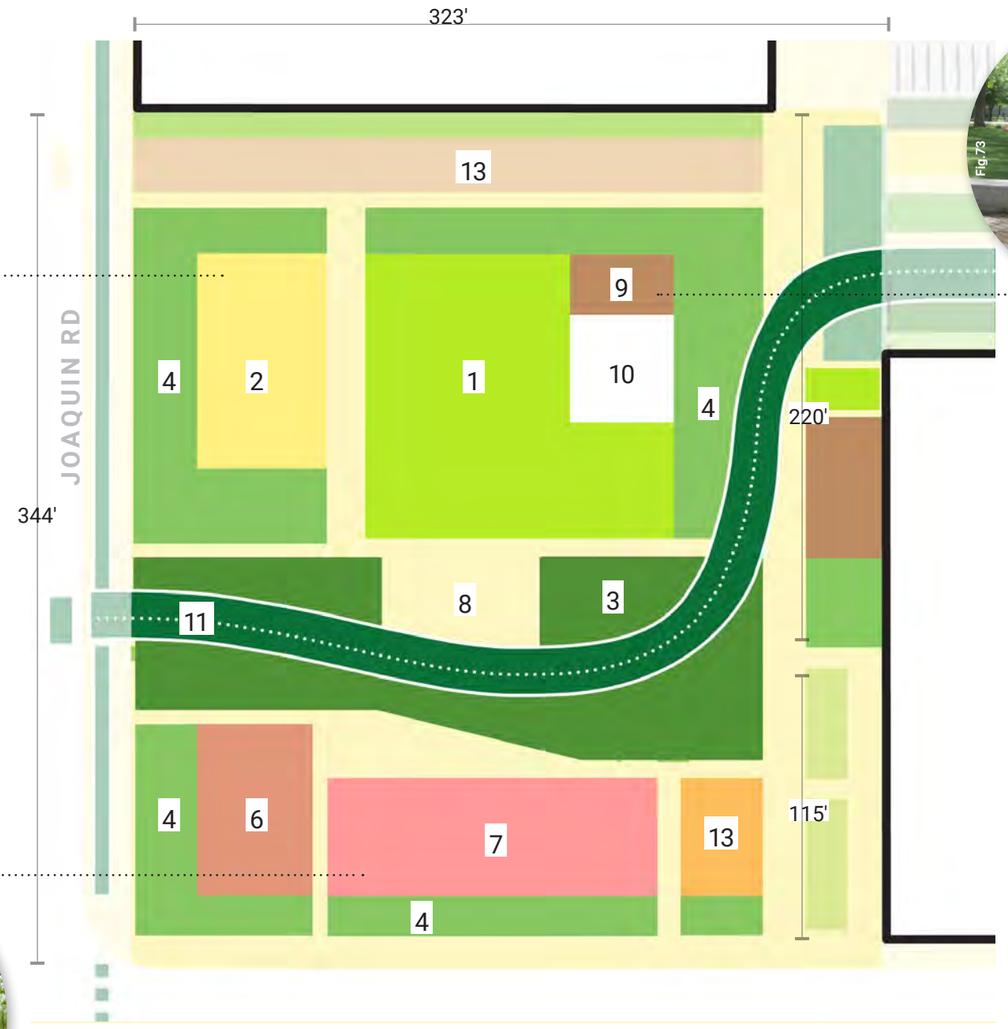
13 Playscape*

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Key Map

Outdoor Living Room

Native Planting



Flex Lawn

Landmark with Programmable Deck

Neighborhood Court / Picnic Area

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

E2.6. Joaquin Terrace

Open Space Summary

Intent

A green confluence area offering pedestrians a respite and privacy from the office uses to the north and Joaquin Road to the east. Existing Green Loop anchors social gathering spaces to along the north edge and intimate tree groves to the south.

Character & Atmosphere

A sequence of social gathering spaces and intimate tree groves that provide spill-out opportunities to the adjacent office block. Activity is concentrated between the Green Loop and office blocks. By contrast, intimate tree groves and planting beds along the south edge bring softness to residential frontages. Planting beds and ecological demonstration areas on the east edge buffer the open space from vehicular traffic on Joaquin Road.

Program & Uses

Activated northern edge along office frontage with program deck and spill out from active uses at ground floor. Mix of hard and soft social gathering spaces foster workplace spill out, such as program decks, recreation fields, and social seating to support year-round neighborhood activity.

OPEN SPACE DESCRIPTION

Area: ~2.2 ac
Overall Dimensions: 615’ x 306’
Ownership: POPA or Dedicated Park Land
Ground Floor Adjacencies: Office & Residential

Key Map

Key Features, satisfying CMV Requirements

Continuous Canopy Corridor, Upland Forest Mix

Dog Park

Multi-use Trail / Green Loop

Open Usable Field / Flex Lawn

Playscape

Recreation Field (Game Court)

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

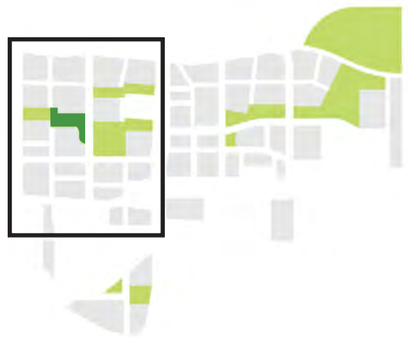
Joaquin Terrace

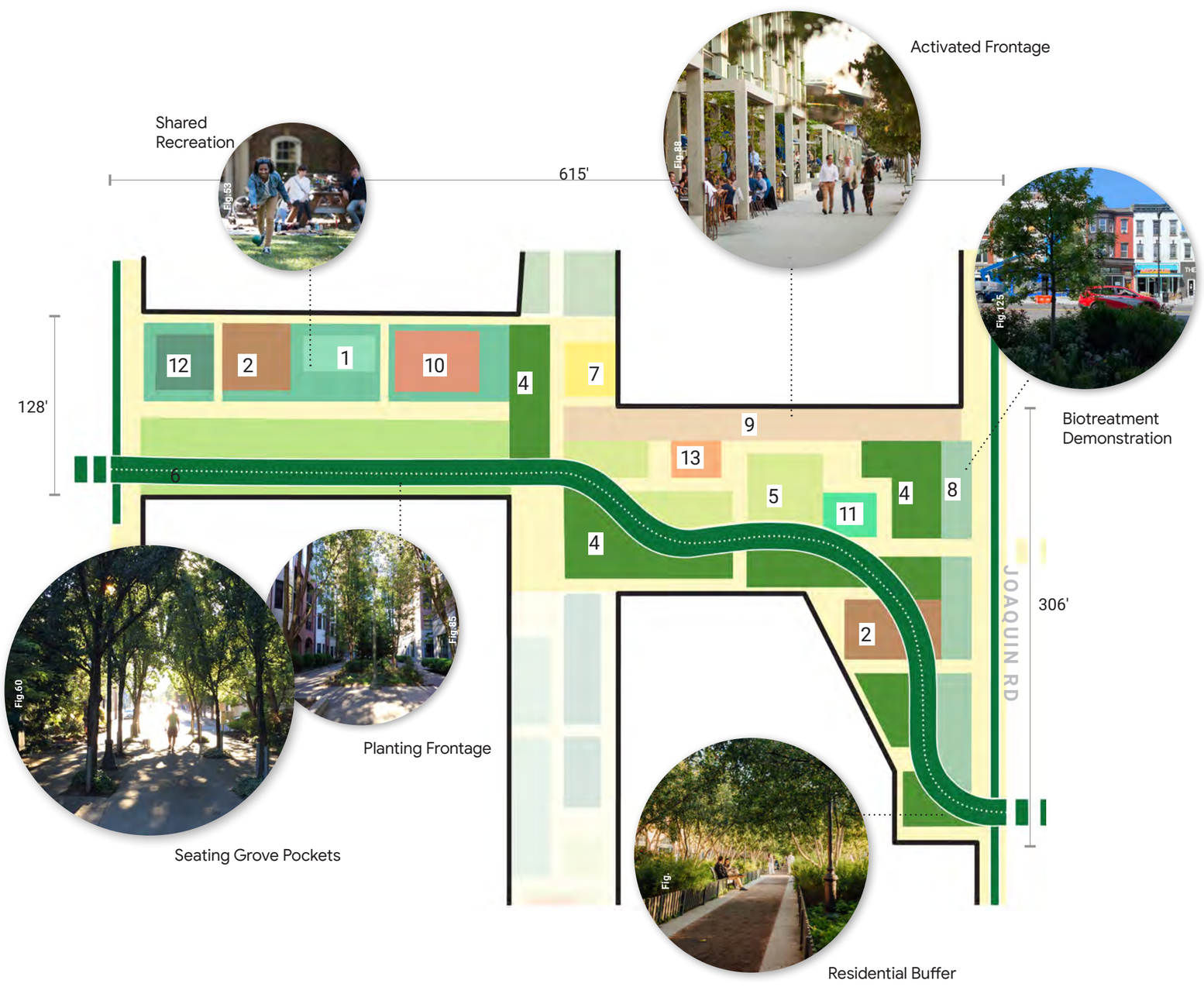
Potential Program
Confluence Area

1 Informal Recreation (Game Courts)*
2 Program Deck - Informal Seating
3 Green Frontage / Resi Buffer
4 Continuous Tree Canopy Corridor (Upland Forest Mix)*
5 Outdoor Living Room*
6 Multi Use Trail (Green Loop)*
7 Social Seating
8 Biotreatment Demonstration
9 Boardwalk / Terrace
10 Dog Park*
11 Exercise Area*
12 Community Garden
13 Social Seating

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Key Map





E2.7. Joaquin Grove | Outdoor Living Rooms

Open Space Summary

Intent

A green interstitial space that buffers between office uses to the north and residential to the south, providing amenities and gathering spaces for both residents and workers alike.

Character & Atmosphere

A collection of flexible and multifunctional gathering spaces that together create a series of outdoor living rooms. A tree-lined green edge brings intimacy and privacy to residential frontages at the south edge, while hardscaped social gathering areas and program decks along office frontages enable spill out activation. Clusters of tree groves shade the mix of program variety, ensuring human comfort.

Program & Uses

Recreational fields, program decks, kiosks and social seating bring vibrance and activity to the office frontages while planting beds, green stoops and green-blue stormwater demonstration areas flank the southern residential edge. Open space also acts as a green pedestrian corridor connecting between N Shoreline Blvd and Joaquin Rd.

Note: All diagrams and precedent imagery illustrating potential future programming and/or design are indicative only and subject to change,

OPEN SPACE DESCRIPTION

Area: ~1.4 ac
Overall Dimensions: 610’ x 100’
Ownership: POPA or Dedicated Park Land
Ground Floor Adjacencies: Office & Residential

Key Map

Key Features, satisfying CMV Requirements

Continuous Canopy Corridor, Upland Forest Mix

Outdoor Living Rooms

Joaquin Grove | Outdoor Living Rooms

Potential Program
Outdoor Living Room

1 Program Deck - Kiosk + Informal Seating

2 Outdoor Program Area - Social Gathering

3 Flex Lawn

4 Boardwalk / Terrace

5 Continuous Tree Canopy Corridor (Upland Forest Mix)*

6 Informal Recreation

7 Ecological Demonstration

8 Understory Perennial Planting

9 Social Seating

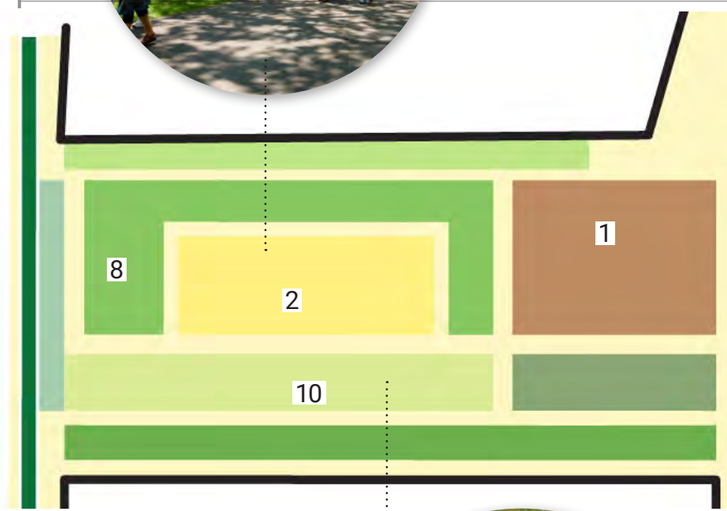
10 Outdoor Living Room*

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Outdoor Living Room

Informal Recreation

Tree Grove



Key Map

Seating Pocket

Ecological Demonstration

E2.8. Shorebird Square | Pocket Park

Open Space Summary

Intent

Create a community-oriented, human-centre gathering place that can accommodate a range of neighborhood events and programming.

Character & Atmosphere

As a neighborhood pocket park, establishes a link between residential neighborhood and the bustle of Greenway Parks on the other side of Shorebird Way. Shorebird Square is a calm, community space for residents to meet and gather. Openness within the green envelope provides a flexible canvas for weekend community events such as markets or children's activities.

Program & Uses

Community garden allotments and nature play cater to North Bayshore residents of all ages. Public art and/or shade structures provide unique moments of shaded social seating.

OPEN SPACE DESCRIPTION

Area: ~0.3 ac
Overall Dimensions: 120' x 103'
Ownership: Dedicated Park Land
Ground Floor Adjacencies: Residential

Key Features, satisfying CMV Requirements

Playscape

Key Map

Shorebird Square | Pocket Park

Potential Program
Pocket Park

1 Playscape*

2 Program Deck - Kiosk + Informal Seating + Shade Structure

3 Neighborhood Court / Flex Plaza

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

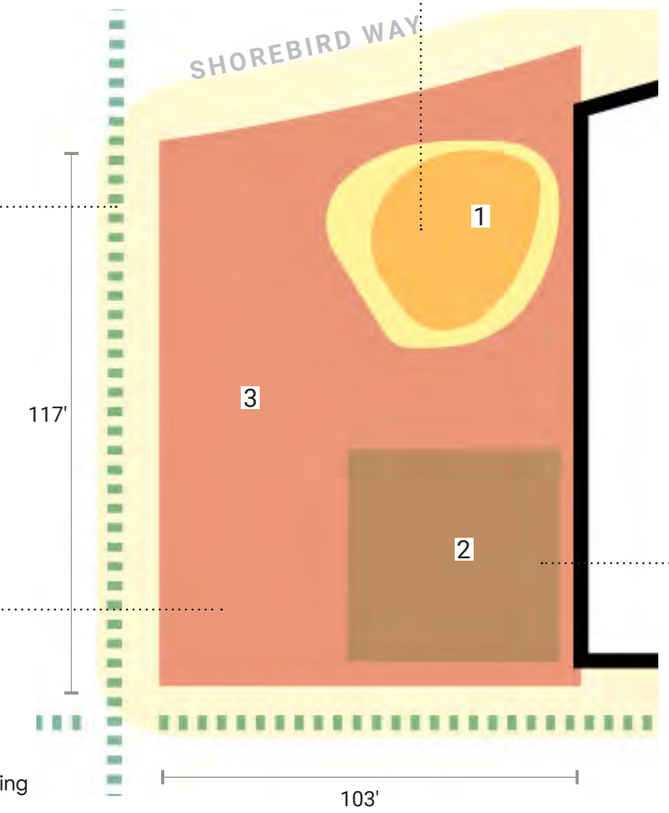
Key Map

Relaxation

Play Structure

Neighborhood Edges

Community Gathering



Informal Seating

Flexible Plaza

E2.9. Greenway Park | Linear Park

Open Space Summary

Intent

Establish an all-day, flexible, inclusive open space with a mix of active and passive recreation opportunities as well as spaces to meet, gather and spill out from adjacent buildings. Caters to both neighborhood residents and office workers.

Character & Atmosphere

A necklace of open space pockets that are nestled among existing berms along the Green Loop edges in Shorebird. Greenway Park features flexible, active, and passive shared programming, informal seating and green space. Spaces can be adapted to multiple functions and cater to workers and residents of all ages.

Program & Uses

Boardwalks, program decks and terraces line the building edges at the north while a continuous tree canopy aligns with Shorebird Way to the south. Pockets of flexible gathering spaces and flex lawns accommodate small scale gatherings and events.

OPEN SPACE DESCRIPTION

Area: ~2.5 ac
Overall Dimensions: 880’ x 176’
Ownership: POPA or Dedicated Park Land
Ground Floor Adjacencies: Office

Key Map

Key Features, satisfying CMV Requirements

Playscape

Open Usable Field / Flex Lawn

Outdoor Living Room

Exercise Area

Multi-use Trail

Greenway Park | Linear Park

Potential Program
Linear Park & Recreation Area

1 Flex Lawn / Event Space
2 Recreation Field (Flex Lawn)*
3 Biotreatment Demonstration
4 Native Planting Bed
5 Pavilion
6 Boardwalk / Terrace
7 Nature Play*
8 Program Deck - Informal Seating + Kiosk
9 Social Gathering
10 Social Seating
11 Multi Use Trail*
12 Outdoor Living Room*
13 Informal Recreation Fields
14 Understory Perennial Planting
15 Exercise Area*

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Key Map

Amphitheater

Nature Play

Relaxation

Recreation

Flex Lawn

Community Gathering

Night Events

Multi Use Trail

E2.10. The Wilds | Urban Meadow

Open Space Summary

Intent

Establish a transitional open space and urban meadow that bridges the urban character of Greenway Parks and wilder character of the Eco Gem.

Character & Atmosphere

A nature-immersive experience comprised of passive open space and native gardens surrounding the existing egret rookery. Shorebird Wilds can provide opportunities for nature play, public art, botanic display, and social seating. The Wilds can provide a clear movement corridor for the egrets to fly north to the Eco Gem, Charleston Retention Basin, and Stevens Creek, providing a network of rich foraging grounds. To facilitate Shorebird Wilds, a portion of Shorebird Way right-of-way will be vacated, replaced with acres of regenerated landscape of native flower meadow, and a mix of passive and active outdoor programming.

Program & Uses

A meandering network of walking trails snake through and around colorful garden pockets where nooks are carved out for social seating and a select few pieces of ecologically-oriented public art. This immersive nature experience also provides a suitable canvas for ecological education programs.

OPEN SPACE DESCRIPTION

Area: ~4.5 ac
Overall Dimensions: 550’ x 460’
Ownership: POPA or Dedicated Park Land
Ground Floor Adjacencies: Office

Key Features, satisfying CMV Requirements

Multi-use Trail / Green Loop

Key Map

The Wilds | Urban Meadow

Potential Program
Rolling Meadow

1. Understory Planting
2. Continuous Tree Canopy Corridor
3. Multi Use Trail (Green Loop)*
4. Social Seating + Gathering
5. Public Art

*Denotes Programmatic Element
satisfying CMV POPA Credit Requirements


Fig.126

Nature-based Art


Fig.75

Trail Network

460'


Fig.127

Native Planting

Rolling Meadows


Fig.23


Fig.20

Ecological
Demonstration

550'


Fig.15

Educational Programs


Fig.8

Egret Rookery

SHOREBIRD WAY

390'

Key Map

E2.11. Eco Gem | Ecological Park

Open Space Summary

Intent

Establish a publicly accessible ecological park for the community as a learning landscape and place for passive recreation.

Character & Atmosphere

A nature-immersive, ecologically-driven landscape with a few natural walking trails meandering through the park. Pathway network and other programming is kept to a minimum to retain the vast majority of available open space for planting new tree groves such as willows and oaks.

Program & Uses

Intentionally not actively programmed to protect nature and ecology, the Ecogem is a learning landscape that can facilitate ecological education programming and community events. An EcoCenter may be located offsite to support these.

OPEN SPACE DESCRIPTION

Area: ~10.8 ac
Overall Dimensions: 967’ x 660’
Ownership: Dedicated Park Land
Ground Floor Adjacencies: N/A

Key Features, satisfying CMV Requirements

Multi-use Trail

Key Map

Eco Gem | Ecological Park

Potential Program
Nature & Ecology

1 Transitional / Upland Forest
2 Willow Grove
3 Willow Thicket
4 Multi-use Trail*
5 Trail Overlook

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements


Fig.75

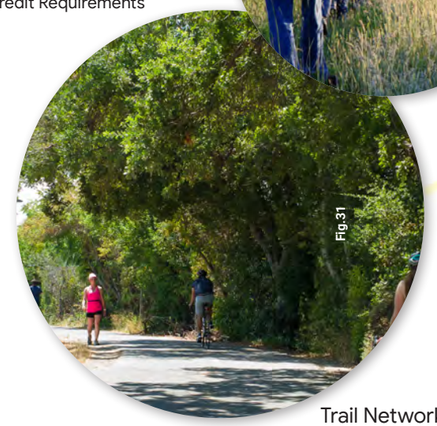


Fig.31

Trail Network


Fig.13


Fig.15

Overlook

Educational Demonstration


Fig.64

Transitional Upland Forest

Key Map

E2.12. Gateway Plaza & Shoreline Square

Open Space Summary

Intent

Create welcome arrival experience, integrating Green Loop to neighborhood open spaces; frame entry experience to Joaquin Commons.

Character & Atmosphere

Compressed green corridor bridging Joaquin and Shorebird neighborhoods and leading to expansive, public open space at Joaquin Commons. Mix of urban and green with activated residential edges, neighborhood gathering spaces, and canopy connectivity shrouding the Green Loop, which facilitates multi-modal movement across the District.

Program & Uses

Green Loop and pedestrian corridor bisect the open space. Activated northern edge along residential frontage with program deck and spill out from active uses at ground floor.

OPEN SPACE DESCRIPTION

Area: ~0.3 ac (SS) / 0.9 ac (GP)
Overall Dimensions: 187’ x 157’ (SS) / 223’ x 184’ (GP)
Ownership: Dedicated Park Land
Ground Floor Adjacencies: Office / Mixed Use / Residential

Key Features, satisfying CMV Requirements

Continuous Tree Canopy Corridor

(Upland Forest Mix)

Outdoor Living Room

Open Usable Field / Flex Lawn

Neighborhood Court (Picnic Area)

Key Map

Gateway Plaza & Shoreline Square

Potential Program
Shoreline Square (SS)

1 Program Deck with Pergola / Shade Structure

2 Understory Perennial Planting

3 Pavilion

Potential Program
Gateway Plaza (GP)

1 1. Recreation Field (Flex Lawn)*

2 2. Social Seating

3 3. Neighborhood Court with Social Seating*

4 4. Understory Perennial Planting

5 5. Boardwalk / Terrace - with Pergola / Shade Structure

6 6. Continuous Tree Canopy Corridor (Upland Forest Mix)*

7 7. Outdoor Living Room*

*Denotes Programmatic Element satisfying CMV POPA Credit Requirements

Key Map

CHAPTER 3

Image Credits

Image Credits

Overview

CHAPTER ONE

FIG. 1 Artists' Impression of Shorebird Wilds, North Bayshore Master Plan, © Design Distill via Google, p.1

FIG. 2 Artists' Impression of Shorebird Neighborhood, North Bayshore Master Plan, © PIxelflakes via Google, p.2

FIG. 3 Bay Edge Condition, © Shae Rocco via Google, p.4

FIG. 4 Tidal Salt Marsh & Wet Meadows, © West8, p.4, 23

FIG. 5 Bay Trail, © West8, p.4, 25

FIG. 6 Creek Trails (Permanente & Stevens), © West8, p.4, 25

FIG. 7 Aerial View of Charleston Basin and Google Campus Edge, © Google, p.7

FIG. 8 Egret Rookery, © West8, p.7, 16, 23, 53

FIG. 9 Charleston Basin Performative Landscape, © West8, p.7, 23

FIG. 10 Colorful Native Biodiversity, © West8, p.7, 20

FIG. 11 Pedestrian & Bike-Centric Green Corridors, © West8, p.7, 25, 27

FIG. 12 Continuous Canopy, © West8, p.7

FIG. 13 Access to Nature & Wildlife, © Google, p.9, 10,12, 40, 55

FIG. 14 Pedestrian & Bike Mobility, © West8, p.9, 12, 28, 40

FIG. 15 Learning Landscapes, © Trust for Governor's Island, p.9, 27, 28, 40, 53, 55

FIG. 16 Programmable Spill-Out Areas, Darling Square, © Lendlease, p.9, 40, 43

FIG. 17 Playful, Nature-Immersed Experiences, ©Richter SpielgerÃ¤te GmbH, p.9

FIG. 18 Activation & Night Life, © 2012 Redav, Inc (Rui Dias-Aidos), p.9, 12, 21, 22, 51

FIG. 19 Beyond a Headquarters, © Iwan Baan for Google, p.10

FIG. 20 Stormwater Management, Madrid Rio, © West 8, p.12, 27, 28, 40, 53

FIG. 21 Teaching Garden GrowNYC © Trust for Governor's Island, p.12, 27, 28

FIG. 22 Stormwater Management, Marylebone High Street, © West 8, p.12, 27, 28

FIG. 23 Continuous Canopy, Maximapark, © Jeroen Musch, p.12, 23, 24, 40, 43, 53

FIG. 24 Monarch Butterfly, © West8, p.12, 16, 23, 24, 40

FIG. 25 Outdoor Living Rooms, © West 8, p.12

FIG. 26 Carbon-Free Mobility, Madrid Rio, © West 8, p.12, 28, 40

FIG. 27 Spill Out, Barangaroo, © Lendlease, p.12, 22, 40

FIG. 28 Playscapes, Governor's Island, © Kreg Holt via Trust for Governor's Island, p.12, 21, 22, 40, 51

FIG. 29 Wellness, New Holland Island, © New Holland Island, p.12, 22, 51

FIG. 30 Recreation, Montpellier, © Karolina Samborska, p.12, p.22, 40, 51

FIG. 31 Creek Trails, © Shae Rocco, p.13, 40, 55

FIG. 32 Acorn Woodpecker, © Frank Schulenberg, Creative Commons 2.0, p.16

FIG. 33 Pollinator Bees, © Google, p.16

FIG. 34 Swallowtail Butterflies, © Google, p.16

FIG. 35 Townsend's warbler, © Creative Commons 2.0, p.16

FIG. 36 Coast Live Oak, © West8, p.16

FIG. 37 P3290042adj Valley Oak in Springtime, © niiicedave, CC BY-SA 2.0, p.16

FIG. 38 Buckeye, © HT Harvey, p.16

FIG. 39 Platanus racemosa, © briweldon, CC BY 2.0, p.16

FIG. 40 Fremont Cottonwood, © HT Harvey, p.16

FIG. 41 Alnus rhombifolia, © sgene, CC0 BY 1.0, p.16

FIG. 42 Boxelder, © Second Nature, p.16

FIG. 43 Red Willow, © Second Nature, p.16

FIG. 44 Arroyo Willow, © Iwan Baan for Google, p.16

FIG. 45 Wet Meadows, © West 8, p.17

FIG. 46 Riparian Forest, © West8, p.17

FIG. 47 Native Wildflowers, © West8, p.17

FIG. 48 Oak Savanna, © Google, p.17

FIG. 49 Active Passage, © West 8, p.21, 40

FIG. 50 Pop Up, Spark Social SF, © West 8, p.21, 40, 49

FIG. 51 Art & Installation, Darling Square, © Lendlease, p.21, 40, 57

FIG. 52 Art & Installation, Arc de Velo, © West 8, p.22

Image Credits

Overview

CHAPTER ONE

FIG. 53 Informal Recreation, Governor's Island, © Timothy Schenck, p.21, 40, 45, 47

FIG. 54 Outdoor Living Rooms, Ligett Terrace, © Timothy Schenck, p.21, 40

FIG. 55 Community Gathering, © Photo Studio Context Press Office via New Holland Island, p.22, 40

FIG. 56 Active Edges, Barangaroo Pop Up Retail, © Lendlease, p. 22, 40

FIG. 57 Passive, © Timothy Schenck, p.22, 40

FIG. 58 Native Biodiversity, California, © West 8, p.23, 27

FIG. 59 Native Biodiversity, Maximapark, © Johan den Boer, p.24, 40

FIG. 60 Continuous Tree Canopy, © West 8, p.24, 25, 40, 45

FIG. 61 Nature Play, New Holland, © Leonid Leontev, p.24, 40

FIG. 62 Green Streets, © West 8, p.24, 40

FIG. 63 Outdoor Living Rooms, Madrid Rio, © Jeroen Musch, p.24, 40

FIG. 64 Relaxation in Nature, © Timothy Schenck, p.24, 40, 51, 55

FIG. 65 Education, © Johan den Boer, p.24

FIG. 66 Charleston Basin Trail, © West 8 , p.25

FIG. 67 Landscape Buffered Cycle Tracks, Madrid Rio, © Jeroen Musch, p.25

FIG. 68 Landscape Buffered Cycle Tracks, © West 8 , p.25, 40

FIG. 69 Continuous Canopy, © West 8 , p.27, 40

FIG. 70 Green Streets & Shade Pavement, © West 8 , p.27, 40

FIG. 71 Stewardship, Maximapark, © Johan den Boer, p.28

FIG. 72 Material Reuse, Irma Logs, © West8, p.28

Image Credits

CHAPTER TWO

FIG. 73 Madrid Rio, © West8, p.34, 40, 44
FIG. 74 Market, © Shea Rocco, p.34, 40
FIG. 75 Walking Trails, © Johan den Boer, p.34, 40, 53
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Appendix F
Tree framework plan

04.2023

F1. Statement of Purpose

The purpose of this report is to outline an approach to facilitate review of phased projects within the North Bayshore Master Plan which meet the City of Mountain View's tree and ecology goals. This report describes the transformation of North Bayshore to an urban neighborhood with rich ecology, active street frontages, and multimodal connections, as presented throughout the Master Plan. This document further describes the Plan's urban forestry goals, and how the Project addresses tree removal, preservation, and replacement.

F2. Vision and Goals

The North Bayshore Master Plan (Master Plan) proposes the development of a vibrant mixed-use community within the City of Mountain View (City) that builds upon the natural beauty and history of this location adjacent to the San Francisco Bay (Bay). Ecology is at the heart of landscape design as a means to better support native species biodiversity, build climate resilience, and improve human health outcomes. The ecological transformation of the Master Plan area has four main goals:

RESTORE ECOSYSTEMS IN AN URBAN ENVIRONMENT

Currently the site is home to fragmented pockets of native and non-native plant communities of relatively low ecological value. The Master Plan re-establishes a mosaic of natural areas that connect the Bay tidal wetlands and salt ponds (outside of the Master Plan Area) to emergent freshwater wetlands, willow groves, riparian forests, oak savannas, and woodlands that are now rare or have been lost in the region. The Master Plan strives to substantially reduce urban fragmentation and restore functional ecological connectivity between existing and proposed ecological patches. In the project area, the predominantly non-native urban forest will be incrementally replaced by a high-value, climate-resilient native tree species palette that will catalyze local biodiversity and ecological functions.

BUILD A ROBUST NETWORK OF HIGH-PERFORMING NATURE

An interconnected network of nature extends from the biodiversity hubs at the Eco Gem and Shorebird Wilds, through a series of urban parks, along corridors of native street trees, and into private parcel landscapes. This is a new precedent for integrating ecology holistically into the urban setting. Improvements along the Green Loop connect natural areas in the Master Plan Area with Permanente and Stevens creeks, facilitating the movement of people and wildlife. Tree canopy over these transportation corridors serves a vital role in increasing the permeability and ecological connectivity of North Bayshore. These connected ecological elements will deliver a high level of performance for urban cooling, drought-resilience, and the many health benefits of daily access to nature.

CREATE AN URBAN BIODIVERSITY HUB THAT BUILDS UPON EXISTING RESOURCES

The Eco Gem presents an opportunity to recreate rare willow groves that once supported extensive biodiversity in the area before North Bayshore was developed[1]. It builds on recent restoration efforts in the adjacent Charleston Retention Basin. Together they will form a >20 acre biodiversity hub with heat island cooling effects for the neighborhood. The Eco Gem will provide high-value natural areas essential to migratory songbirds, a diverse array of butterflies, and numerous other wildlife. Because of its size and tree density it will also serve as a natural cool island with a shaded, moist environment in the dry season and during future heat waves.

SHIFT COMPOSITION TO A MORE DROUGHT-TOLERANT, HEAT-RESILIENT, SHADE-PRODUCING CANOPY

The plan provides an opportunity to re-balance North Bayshore's tree portfolio to better meet the challenges of the coming decades. Over the course of the project, high-water-use and low-performing trees will be replaced to establish a more resilient forest which is well-adapted to future conditions. The project will demonstrate a "forest of the future" which will be a model for other cities facing changing climatic conditions. Species selection will be based on both current and predicted ranges to maximize ecology and climate resilience.

A strategy for preserving and planting trees and a vibrant understory is fundamental to the success of the aforementioned goals. Locally native tree species support local and migratory wildlife, are key components in historical plant communities, provide biodiversity support even in the most urban hardscaped environments, and are the anchors of a climate-adapted landscape. Following is a description of how Google plans to transform North Bayshore's existing urban forest in order to meet internal and City goals for urban ecology.

1 Please note that the Eco Gem will be dedicated to the City. Therefore, the design and construction of this open space is ultimately at the City's discretion.

Urban Forestry Goals

The long-term urban forestry goal is to sustain the ecological, social, and economic functions and benefits provided by the Master Plan Area's urban forest both now and into the future. To meet the goal of sustainability, the trees that compose the urban forest must be well-adapted to the current and future climate conditions, have a structure and function that supports substantial use by local native wildlife species, and increase native biodiversity relative to the existing conditions. Specific goals include:

1. **Support the implementation of the goals and vision of the City as described in the North Bayshore Precise Plan** to build a sustainable mixed use development that improves the ecological value of the site, increases climate resilience, and contributes to a healthier community.
2. **Create and maintain an attractive, sustainable urban forest** that uses resources wisely, provides environmental benefits, is connected to and bolsters the function of nearby natural areas, and is resilient through changes in climate.
3. **Promote the health of the community** by providing vibrant, attractive green spaces that improve people's physical and mental well-being.
4. **Re-form the current urban forest streetscape** to include frequent tree canopy over sidewalks and bike paths that provide shade and improve thermal comfort for people. Tree planting areas in the streetscape will provide adequate soil volume, planting space and pervious surfaces to support healthy tree growth, and maximize tree canopy.
5. **Gradually convert the urban forest species composition** by replacing high water-using species with those that use less water, are tolerant to recycled water, and are suitable for the future anticipated warmer and drier climate.
6. **Enhance the ecological quality** of the urban forest by planting more locally native plants; enhancing canopy structure and function by including midstory and understory species that provide additional foraging, breeding, and nesting areas for local wildlife; and by creating connected canopy corridors that support animal movement across the landscape, including movement to and from adjacent habitats outside of the Master Plan Area.
7. **Partner with the City of Mountain View and the community** to develop a tree preservation and replacement approach that meets the goals stated above.

F3. Ecological Guiding Principles

The amount, type, and arrangement of trees can have a profound influence on the ecological value of the urban forest. Therefore, the Plan applies ecological design principles to maximize the quality of the tree canopy to meet the Master Plan goals, and provide ample quantity of tree canopy to meet or exceed the existing tree canopy.

Canopy Quantity

The quantity of tree canopy cover is correlated to the amount of habitat and wildlife connections that a forest provides and is associated with a long list of co-benefits such as human health benefits, air pollution control, carbon sequestration, reductions in stormwater runoff, and mitigation of heat island effects (Berland et al. 2017, Graham et al. 2016, Nowak et al. 2013, Nowak et al. 2014, Radford et al. 2005, Ziter et al. 2019).

The redevelopment of North Bayshore will achieve a net gain in canopy cover (21.4% to 21.6%) within the Study Area (excluding dedicated park land, except the Eco Gem) as projected 25 years into the future. The overall net gain in canopy cover could vary depending on the City's planting strategy for the dedicated park land.

Canopy Quality

The quality of an urban forest can vary and depends primarily upon species composition, species diversity, and structural complexity. An urban forest composed of locally native trees will have higher ecological value and provide optimal foraging and nesting areas for local wildlife. Tree species with broad and dense canopies are better at mitigating high temperatures, capturing air pollutants, increasing evapotranspiration, and storing carbon (Grote et al. 2016, Sanusi et al . 2017, Rahman et al 2015, Yang et al 2015). The majority of the existing trees are non-native species that require frequent irrigation with potable water and provide lower quality, weaker ecological connections to adjacent ecosystems.

The urban forest proposed in the Plan is composed of locally native tree species integrated with understory plants that increase the climate resilience of the neighborhood, while catalyzing local biodiversity. This native urban forest will primarily be composed of large-statured and drought-tolerant tree species with broad and dense canopies to maximize co-benefits. Riparian tree species such as cottonwood, alder, California sycamore, and willow will be planted where groundwater is accessible and/or where stormwater can support these important species. This approach to urban ecology will also create a distinct sense of place, drawing on the natural heritage of the region.

Canopy Connectivity

A tree canopy that is connected across the urban landscape will provide shade over pedestrian paths, reduce urban heat island effects, and provide corridors for wildlife to move to and from nearby local and regional natural areas. Aside from the Green Loop's canopy corridor, most existing trees do not provide ecological connectivity to the southern parcels, to the adjacent Permanente or Stevens Creeks, or to the San Francisco Bay.

The Plan proposes to strategically plant native trees across the landscape to create connected corridors that link open spaces on the site both to the Bay edge and upland areas higher in the watershed. Large areas of continuous canopy cover along the streets will facilitate movement for birds, insects, and other animals through North Bayshore and connect them to existing and planned open spaces.

Canopy Patch Size

In the built environment, large patches of continuous canopy are difficult to achieve. The larger the patch size the more ecological value and heat reduction the trees can provide (Sanusi et al. 2017). Large areas of urban forest have lower edge-to-interior ratio than smaller patches and therefore reduce edge effects that negatively impact species that are sensitive to urban conditions and human disturbance. There are currently no large canopy patches located within the Project Area. However, the Plan will create a substantial large canopy patch.

The Eco Gem, roughly 11 acres in size, which constitutes 6% of the Project Area, will be densely planted with a mosaic of willow and upland tree species to form a large canopy patch. The Eco Gem will be adjacent to and contiguous with the existing willow grove in the Charleston Retention Basin, thereby expanding the effective size of this ecological area to approximately 21 acres.

Today, willow groves are rare in the region and one of this size would be able to function as a rich and protected local biodiversity hub, supporting resident and migratory birds. The tree density and size of this grove will also serve as a "park cool island" both providing refuge from rising temperatures in situ and having an overall cooling effect in the surrounding area.

F4. Tree Accounting

Master Plan Area

The existing urban forest in the Master Plan Area was planted over the course of the past few decades when the site was envisioned as a center for commercial business, cars were the primary mode of transportation, summer temperatures were lower, and potable irrigation water was considered relatively abundant. Looking forward, the urban forest will likely have to tolerate hotter and drier summers and winters with extreme precipitation events. The North Bayshore tree replacement strategy will create an urban forest that is more resilient to future climatic conditions.

Currently, canopy cover for the Master Plan Area is approximately 21%, which is higher than the total canopy cover across the City (18%), and only slightly less than with the City's goal to achieve a 22% average canopy cover across the City by 2025 (Community Tree Master Plan). There are currently 3,820 trees within the Master Plan Area. 85% percent of these trees are non-native ornamental species (Hort Science 2022).

The most common species in the North Bayshore Master Plan Area include coast redwood, London plane, sweetgum, Canary island pine, and evergreen ash (*Table F4.1*).

All of these species are not native to this locality and provide less value to local and migratory wildlife than the ones proposed in this report. In addition, these species either require ongoing irrigation or are incompatible with mid-story and groundcover plants that are part of native plant communities.

Coast redwood is the most commonly planted species in North Bayshore and accounts for 23% (805) of the existing trees. Although coast redwoods are native to California's North Coast Floristic Province, they naturally occur in a narrow strip along the coast from Big Sur to the Oregon border where the climate is buffered by coastal fog, cooler temperatures, and higher precipitation.

The climate conditions in Mountain View are incompatible with redwoods and require that these trees are frequently irrigated with potable water to reduce stress and mortality. With climate change, conditions in North Bayshore will become increasingly inhospitable for redwoods.

London plane trees are the second most abundant tree in North Bayshore and account for 14% (511) of the total trees. London plane is in the genus *Platanus,* as is the California sycamore, and is the most widely planted tree in urban landscapes in California and around the world. As a result, hybridization with the native California sycamore occurs readily and to such an extent that the native species is at risk of genetic extinction (Johnson et al. 2016).

Native sycamores have been planted within North Bayshore and in the surrounding area. To reduce genetic contamination London plane trees may be retained but should not be selected for replacement.

Table F4.1 MOST COMMON SPECIES IN THE NORTH BAYSHORE MASTER PLAN AREA

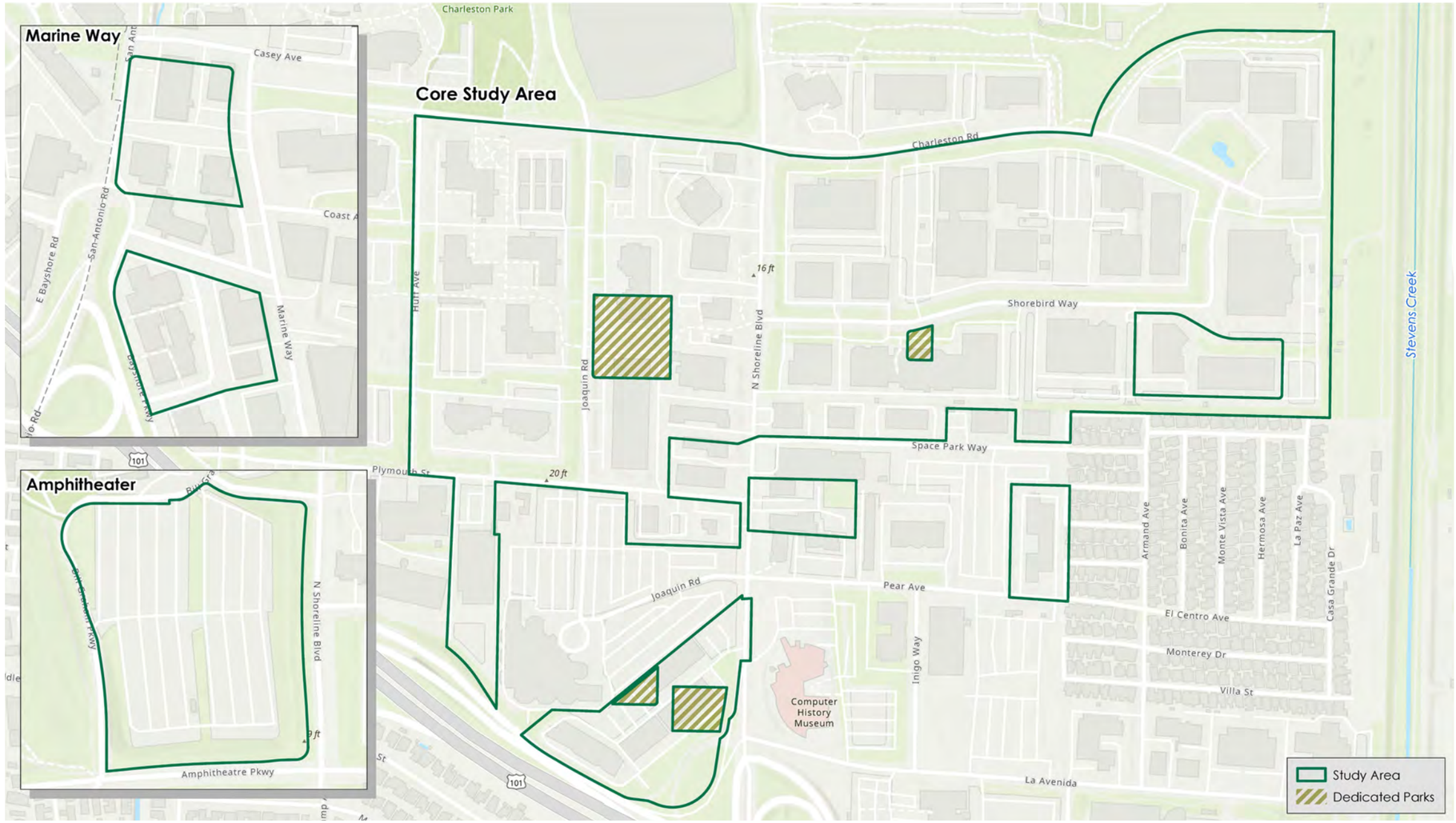
COMMON NAME	SCIENTIFIC NAME	LOCAL NATIVE SPECIES	CONDITION			
			POOR	FAIR	GOOD	COUNT
Coast redwood	Sequoia sempervirens	No	89	248	468	805
London plane	Platanus x hispanica	No	15	196	300	511
Sweetgum	Liquidambar styraciflua	No	10	140	67	217
Canary Island pine	Pinus canariensis	No	11	80	99	190
Evergreen ash	Fraxinus uhdei	No	13	90	53	156
European white birch	Betula pendula	No	53	40	16	109
Weeping bottlebrush	Melaleuca viminalis	No	8	26	63	97
Callery pear	Pyrus calleryana	No	2	35	54	91
Chinese pistache	Pistacia chinensis	No	1	35	49	85
Crape myrtle	Lagerstroemia indica	No	1	11	71	83

Tree Accounting Study Area

Tree planting density and species composition of dedicated park land, with potentially the exception of the Eco Gem, is at the City's discretion. For this reason, the tree removal, preservation, and replacement described below excludes dedicated park land but includes the Eco Gem (*Plan F4.1*). Therefore, while there are 3,820 trees within the Master Plan Area, there are only 3,608 trees in this Study Area; of these 1,660 are heritage trees and 1,948 are non-heritage trees (*Table F4.2*).

The City of Mountain View's (Chapter 32 article II) includes within its definition of a heritage tree any tree with a circumference greater than or equal to 48" measured 54" above grade. Additionally, all oaks, redwoods, and cedar trees with a circumference greater than or equal to 12" are classified as heritage trees.

Plan F4.1 TREE ACCOUNTING STUDY AREA BOUNDARY THAT EXCLUDED THE PARKS THAT WILL BE DEDICATED TO THE CITY (EXCEPT ECOGEM)



TREE REMOVAL

North Bayshore today is a low density, car oriented limited use neighborhood. Transforming it into an ecologically rich urban neighborhood that facilitates an active lifestyle and sustainable mobility options requires fundamental changes to streetscape design and parcel density. Tree removal is indeed necessary in order to achieve the City's North Bayshore Precise Plan and Google's proposed Master Plan vision for the area. The addition of safe bike lanes and pedestrian-oriented streetscape, and reduction in building setbacks that help establish a human scale and more urban character, result in changes to curb alignments that conflict with existing landscape areas.

In accordance with the current Master Plan, these changes will require the removal of 80% (2,895 +/-) of the existing trees in the Study Area (*Table F4.2*). An arborist tree survey by Hort Science determined that 32% of the removal trees have low preservation suitability (Hort Science 2022).

The removal trees include +/-1,345 heritage trees and +/-1,550 non-heritage trees. Our tree removal estimates assume that trees will need to be removed if the Tree Protection Zone (12 x diameter at breast height) intersects 1) with a proposed right of way, 2) with a utility easement, or 3) if the tree trunk is located within 15 ft from a building, or 4) the tree has a low preservation suitability score. Tree species and ecological value were not considered, except for in the Eco Gem. Detailed tree removal and preservation criteria are described in Appendix A.

TREE PRESERVATION

Of the 3,608 trees that occur within the Study Area, approximately 20% (713 +/- trees) will be preserved. These trees will provide age and size diversity for the urban forest and in addition will add structural complexity and contribute to ecological value. Trees on the Green Loop multi-purpose ped/bike path will be preserved and provide a corridor of continuous canopy that extends across the campus from Stevens Creek to Permanente Creek. Most of the healthy trees that currently exist in the open spaces will be preserved (*Table F4.2*). Preserving mature trees also softens the transition to the new landscape condition, enhancing pedestrian experience in the short- to mid-term as the new landscapes mature.

To ensure the preservation of these trees, adequately sized Tree Protection Zones (TPZ) will be recommended by the project arborist during the planning process, established prior to construction and monitored by the project arborist throughout construction. For the purposes of this analysis, we used a TPZ of 12 x tree diameter.

TREE REPLACEMENT

Tree removal will be mitigated by a robust tree replanting strategy to ensure that the overall character and value of the area is improved. The Tree Accounting Study Area currently has 21.4% canopy cover. It is projected that in 25 years the tree preservation and replacement strategy will increase canopy cover by 0.4 acres to 21.6%.

This net gain in canopy cover will be composed of higher value species that are strategically arranged to maximize performance (for pedestrian experience, shade, biodiversity support) within the urban core. It is projected that the canopy cover for the Master Plan area could be even higher depending on the ultimate planting strategy of the dedicated parks, which will be dictated by the City.

Approximately 3,115 replacement trees will be planted throughout the Study Area. This tree replacement approach will provide a 2:1 tree replacement ratio for heritage trees in accordance with City requirements. However, the proposed tree replacement quantity will fall short of the City's suggested 1:1 replacement ratio for non-heritage trees and instead will provide a replacement ratio of 0.27:1. At the time of concept and detailed design for both vertical and horizontal improvements, site designs may result in more tree plantings than is accounted for in this report.

Table F4.2 HERITAGE AND NON-HERITAGE TREE REMOVAL, PRESERVATION, AND REPLACEMENT COUNTS WITHIN THE STUDY AREA[2]

	EXISTING	PRESERVED	REMOVAL			REPLACEMENT		
			HERITAGE	NON-HERITAGE	TOTAL	TOTAL REPLACEMENT REQUIRED	ACHIEVED	DEFICIT
Total	3,608	713	1,345	1,550	2,895	4,240	3,115	-1,125

2 i.e. North Bayshore Master Plan Area, excluding dedicated land with the exception of the Eco Gem. Total replacement required to meet 2:1 and 1:1 replacement ratios for heritage and non-heritage trees respectively

PHASED REMOVAL AND REPLACEMENT OVER TIME

This Project has an estimated ~15 - 20 year phased build out and the removal and replacement of the existing trees will follow a similar timeline. This multi-phased tree removal and replanting approach will minimize the amount of urban forest that is impacted at any given time over the build-out and thereby reduce the temporal loss of the aesthetic value and ecosystem functions provided by the existing urban forest.

This phased approach will also provide age and size class diversity within the urban forest. There are eight discrete phases described in the Plan. The intention is to plant trees in each phase as soon as feasible. Within each project phase, all replacement trees will be installed within 3 years of tree removal. With this phased removal and replacement approach the trees planted in Phase 1 will have been in place for 10 years by the time the final phase (2037) is implemented (*Table F4.4; Plans F4.2* through *F4.6*).

Table F4.4 includes the estimated ages (years-since-planting) of trees over the duration of the project.

Replacement ratios will vary by phase but the build-out ratio will meet the 2:1 and 0.27:1 ratios listed before (*Table F4.5*). Phases that include a larger proportion of open spaces, and therefore have more tree planting opportunities, may have higher replacement ratios than phases that include less open space area. Replacement will be tracked during the phased development of the Master Plan to ensure build-out targets are met.

Table F4.3 APPROXIMATE NUMBER OF EXISTING TREES WITHIN THE STUDY AREA THAT WILL BE PRESERVED, REMOVED, AND REPLACED

APPROX YEAR PLANTED	EXISTING TREES	REMOVAL TREES	PRESERVED TREES	REPLACEMENT TREES	TOTAL TREES/PHASE	CUMULATIVE TREES
2027	1,144	951	193	404	597	597
2031	663	511	152	1,817	1,969	2,566
2030	121	112	9	126	135	2,701
2033	212	146	66	107	173	2,874
2033	224	205	19	83	102	2,976
2035	557	351	206	439	645	3,621
2036	558	502	56	132	188	3,809
2037	129	117	12	6	18	3,827
Total	3,608	2,895	713	3,114	3,827	

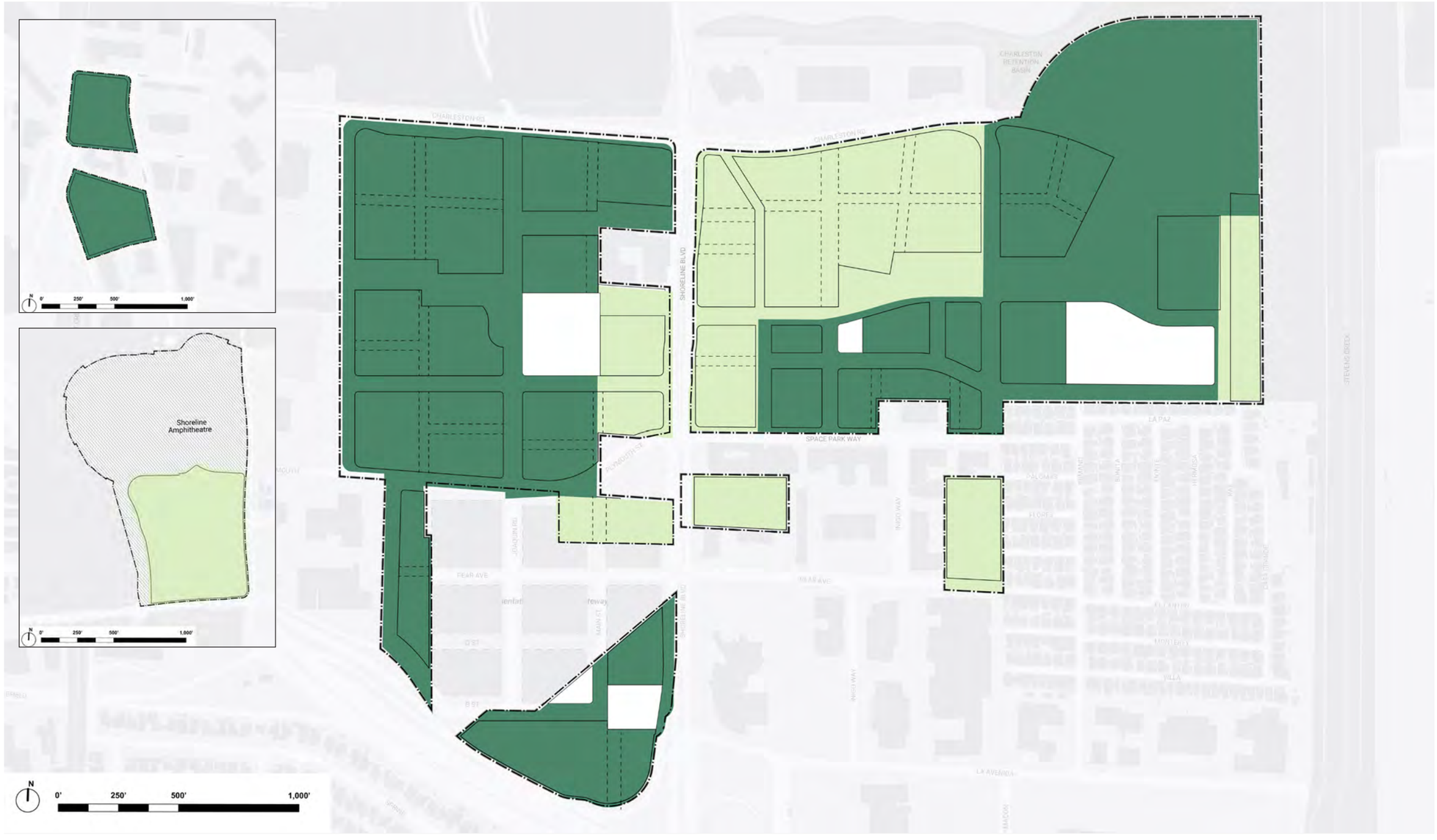
Table F4.4 ESTIMATED AGES (YEARS-SINCE-PLANTING) OF TREES

YEAR PLANTED	2027 (0 YEARS AFTER FIRST TREES PLANTED)	2032 (5 YEARS AFTER AFTER FIRST TREES PLANTED	2037 (10 YEARS AFTER FIRST TREES PLANTED)	2042 (15 YEARS AFTER FIRST TREES PLANTED)	2052 (25 YEARS AFTER FIRST TREES PLANTED)
2027	<1	5	10	15	25
2031	In Place	1	6	11	21
2030	In Place	2	7	12	22
2033	In Place	Removed	4	9	19
2033	In Place	Removed	4	9	19
2035	In Place	Removed	2	7	17
2036	In Place	In Place	1	6	16
2037	In Place	In Place	<1	5	15

Table F4.5 APPROXIMATE REMOVAL AND REPLACEMENT SUMMARY BY YEAR

YEAR	EXISTING TREES	REMOVAL TREES	REMOVAL TREES/ TOTAL REMOVAL TREES	REPLACEMENT TREES	REPLACEMENT TREES/TOTAL REPLACEMENT TREES	EXISTING TREES + REPLACEMENT TREES	CUMULATIVE TREES
2027	1,144	951	33%	404	13%	597	597
2031	663	511	18%	1,817	58%	1,969	2,566
2030	121	112	4%	126	4%	135	2,701
2033	212	146	5%	107	3%	173	2,874
2033	224	205	7%	83	3%	102	2,976
2035	557	351	12%	439	14%	645	3,621
2036	558	502	17%	132	4%	188	3,809
2037	129	117	4%	6	0%	18	3,827
Total	3,608	2,895		3,114		3,827	

Plan F4.2 AVERAGE AGE OF NEWLY PLANTED TREES FOR MASTER PLAN PROJECT AREA AT YEAR 2027



Key

- <1-5 YEARS
- 6-10 YEARS
- 11-15 YEARS
- 16-20 YEARS
- >20 YEARS
- IN PLACE/ NOT RMOVED
- RMOVED, NOT YET REPLACED
- PROJECT AREA

Note:

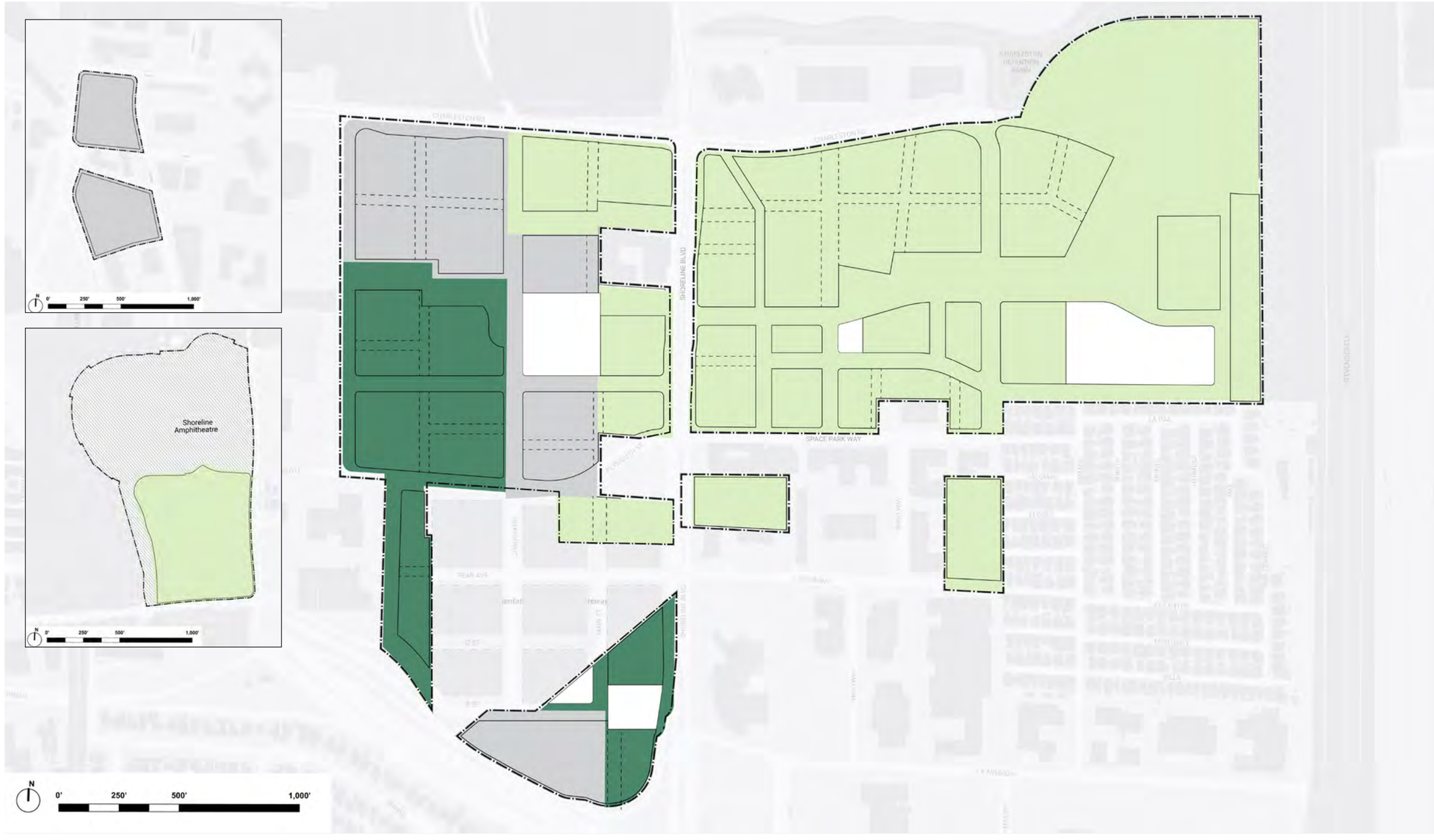
Figure is based on the assumption that trees are planted at the completion of each Phase.

The location of phasing boundaries is conceptual and reflective of land use phasing only. Phasing boundaries are not inclusive of the location of horizontal improvements (either within the Project Area or off-site) such as new streets, utility lines etc needed to serve each phase.

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

TREE FRAMEWORK PLAN

Plan F4.3 AVERAGE AGE OF NEWLY PLANTED TREES FOR MASTER PLAN PROJECT AREA AT YEAR 2032



Key

- <1-5 YEARS
- 6-10 YEARS
- 11-15 YEARS
- 16-20 YEARS
- >20 YEARS
- IN PLACE/ NOT RMOVED
- RMOVED, NOT YET REPLACED
- PROJECT AREA

Note:

Figure is based on the assumption that trees are planted at the completion of each Phase.

The location of phasing boundaries is conceptual and reflective of land use phasing only. Phasing boundaries are not inclusive of the location of horizontal improvements (either within the Project Area or off-site) such as new streets, utility lines etc needed to serve each phase.

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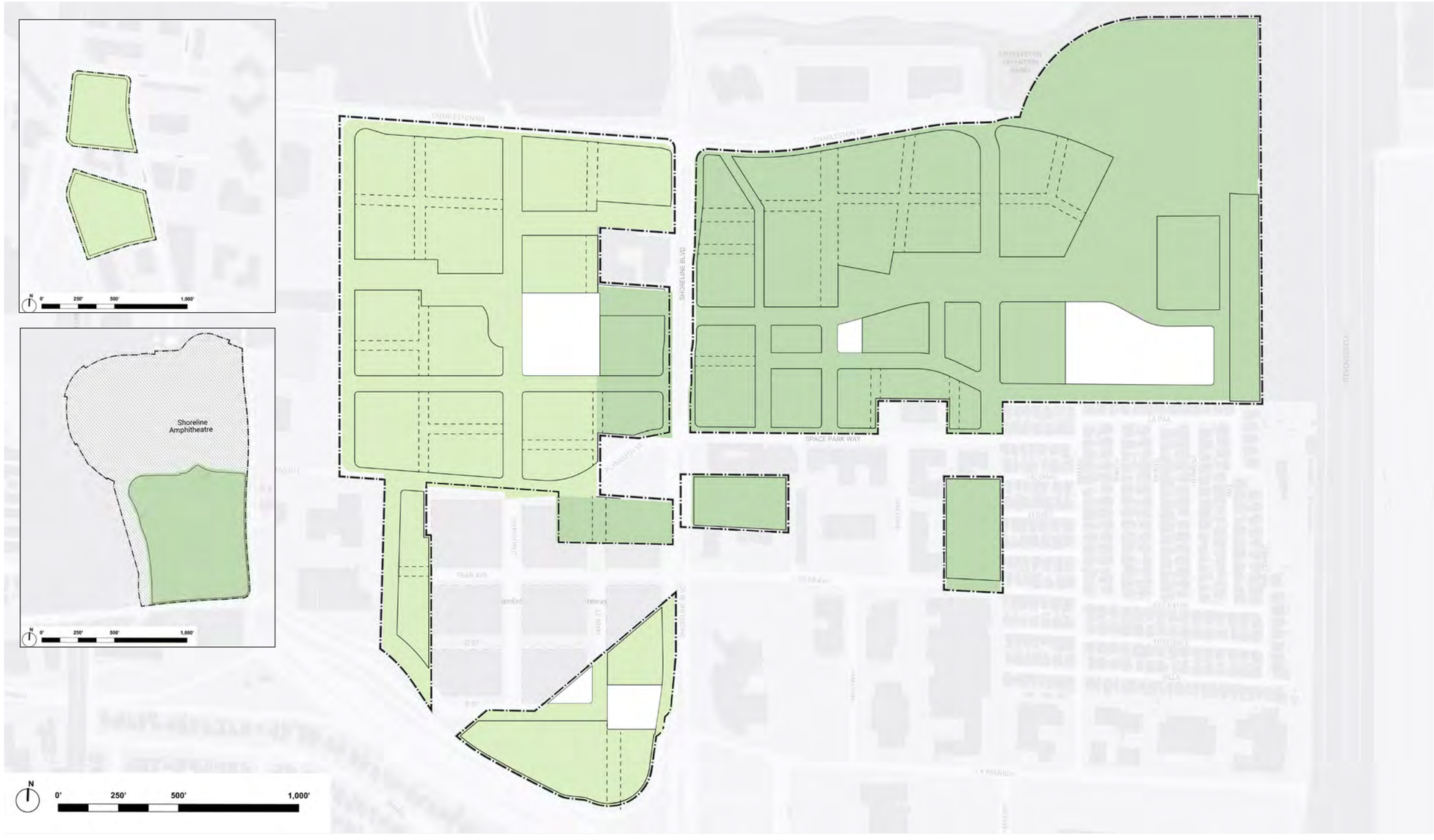
Plan F4.4 AVERAGE AGE OF NEWLY PLANTED TREES FOR MASTER PLAN PROJECT AREA AT YEAR 2037



Key

- <1-5 YEARS
- 6-10 YEARS
- 11-15 YEARS
- 16-20 YEARS
- >20 YEARS
- IN PLACE/ NOT RMOVED
- RMOVED, NOT YET REPLACED
- PROJECT AREA

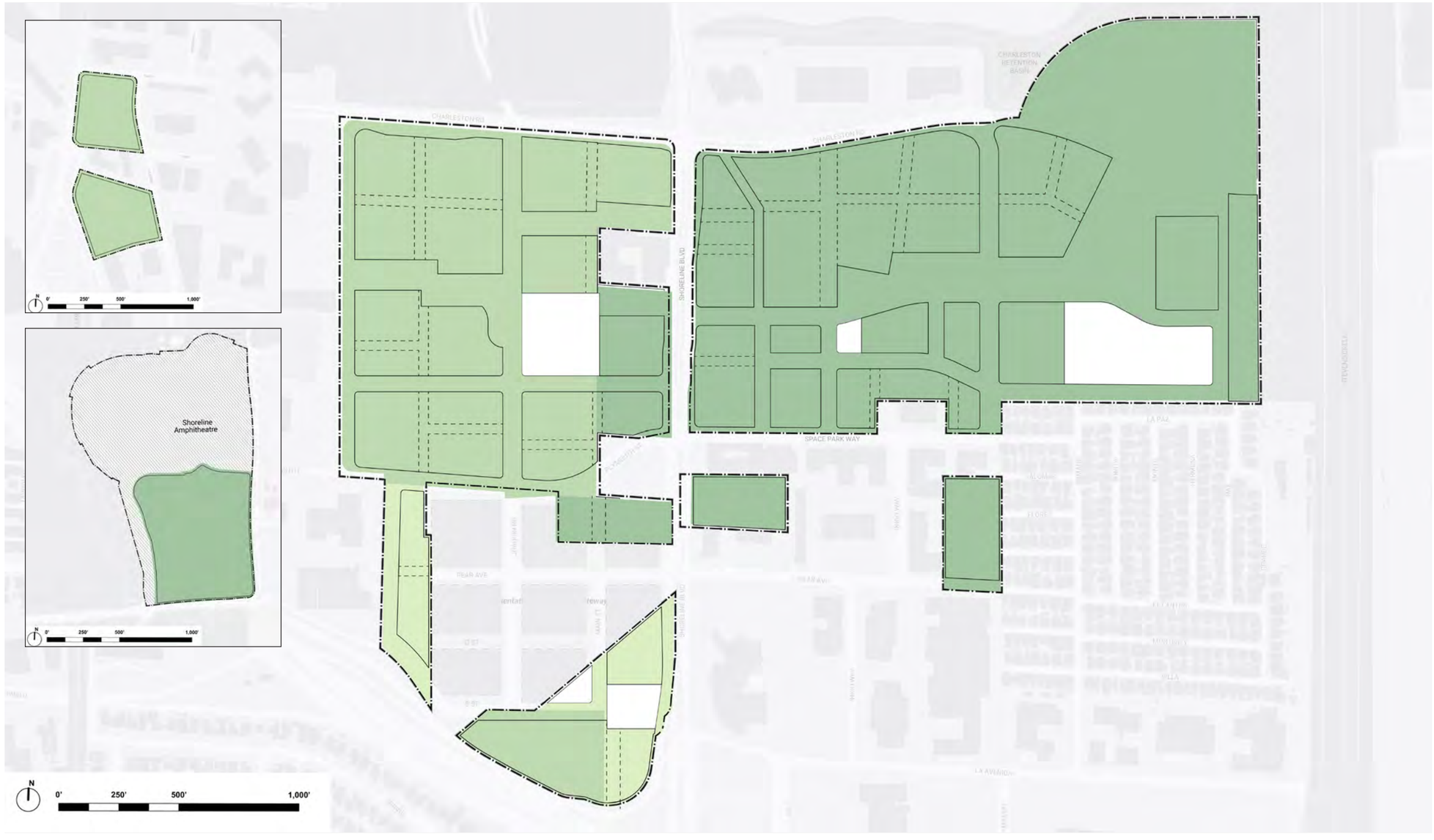
Note:

Figure is based on the assumption that trees are planted at the completion of each Phase.

The location of phasing boundaries is conceptual and reflective of land use phasing only. Phasing boundaries are not inclusive of the location of horizontal improvements (either within the Project Area or off-site) such as new streets, utility lines etc needed to serve each phase.

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

Plan F4.5 AVERAGE AGE OF NEWLY PLANTED TREES FOR MASTER PLAN PROJECT AREA AT YEAR 2042



Key

- <1-5 YEARS
- 6-10 YEARS
- 11-15 YEARS
- 16-20 YEARS
- >20 YEARS
- IN PLACE/ NOT RMOVED
- RMOVED, NOT YET REPLACED
- PROJECT AREA

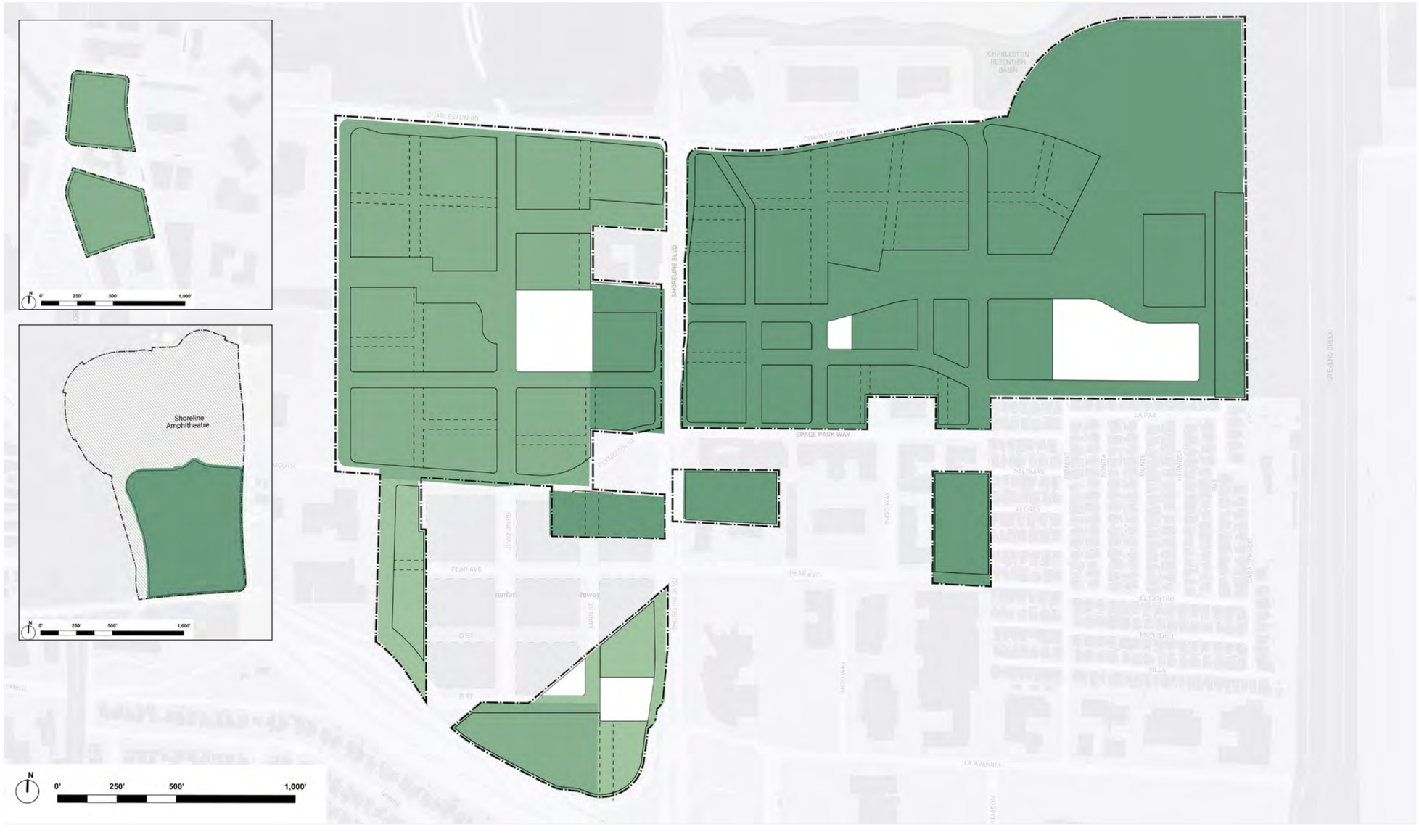
Note:

Figure is based on the assumption that trees are planted at the completion of each Phase.

The location of phasing boundaries is conceptual and reflective of land use phasing only. Phasing boundaries are not inclusive of the location of horizontal improvements (either within the Project Area or off-site) such as new streets, utility lines etc needed to serve each phase.

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

Plan F4.6 AVERAGE AGE OF NEWLY PLANTED TREES FOR MASTER PLAN PROJECT AREA AT YEAR 2052



Key

- <1-5 YEARS
- 6-10 YEARS
- 11-15 YEARS
- 16-20 YEARS
- >20 YEARS
- IN PLACE/ NOT RMOVED
- RMOVED, NOT YET REPLACED
- PROJECT AREA

Note:

Figure is based on the assumption that trees are planted at the completion of each Phase.

The location of phasing boundaries is conceptual and reflective of land use phasing only. Phasing boundaries are not inclusive of the location of horizontal improvements (either within the Project Area or off-site) such as new streets, utility lines etc needed to serve each phase.

This Plan is part of the North Bayshore Master Plan. This Plan demonstrates a conceptual plan for the future development of the Master Plan Area. Roadway alignments, and land use parcels are general depictions. This Master Plan may be subsequently updated and modified in response to City comments as part of the development review process, and future zoning permit applications.

TREE SPECIES SELECTION

The degree to which urban forests can provide ecological benefit depends in large part upon species composition. Native plants provide support for local animals that generally greatly exceeds that offered by non-native plants (Burghardt et al. 2009). Native plants and animals have co-evolved over time, resulting in many specialized relationships, with some animals dependent on key native plant species for survival. Because of interdependent relationships between local plants and animals, green spaces planted with native species support a greater diversity of wildlife than those planted with non-native species.

By selecting native tree species that align with the site's natural history and are adapted to proposed site conditions, we can increase ecological value for a diversity of locally-native plants and animals and enhance the sense of place in North Bayshore.

To help facilitate the planting of regionally acclimated tree species, Google owns and operates a Tree Farm. The Tree Farm currently has approximately 14,000 trees representing 18 species native to the Bay Area and were locally sourced from natural Bay Area populations. For more information see Appendix B.

The proposed North Bayshore landscape will be dominated by native tree species that occur within the lower Santa Clara Valley area and are expected to be resilient to future climate conditions. The tree palette will include drought-tolerant species such as valley oak, coast live oak, California buckeyes, elderberry, and western redbud.

Given the site's proximity to the San Francisco baylands and adjacent riparian corridors, groundwater is relatively close to the ground surface in some locations, which can help established trees weather drought conditions.

Where shallow groundwater is readily accessible, or when planting areas serve stormwater management functions, phreatophytic species such as California sycamore, Fremont cottonwood, box elder, red willow and arroyo willow will be planted. Generally, the Master Plan Area lies at high enough elevation that potential changes in groundwater associated with sea level rise are not likely to affect growing conditions.

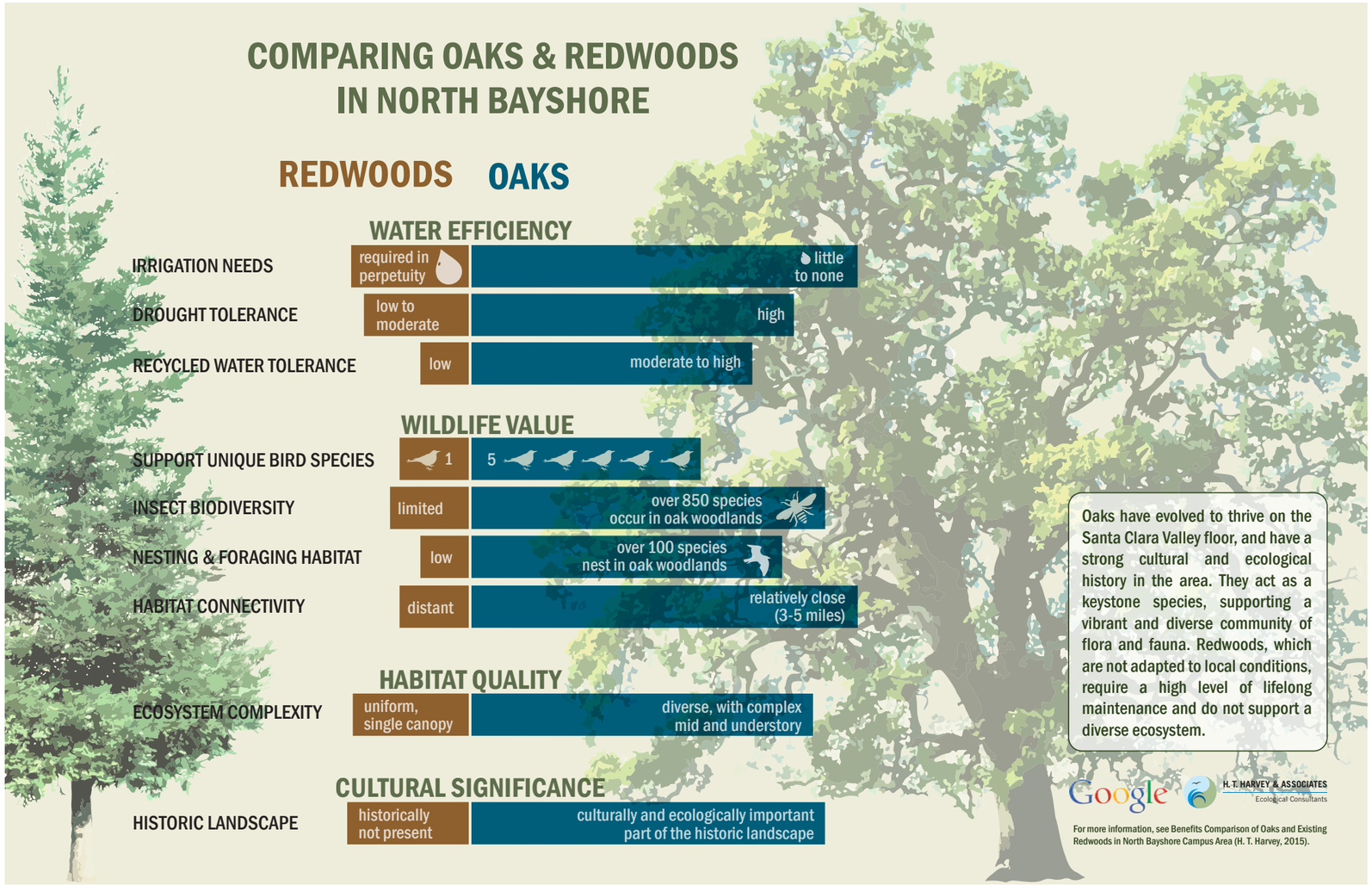
These mesic species may also be located adjacent to perennial or near-perennial sources of stormwater. While the use of regionally native trees will be the priority, other trees may be included when necessary.

Oak woodlands and savannas are an important historical ecosystem type in the South Bay, making oak trees a key component of a functional native tree palette. Incorporating local ecosystems like oak woodland into the landscape design at North Bayshore will help create a distinctive local character rooted in place and history. In addition, oaks support a wide diversity of native insects, birds, and other wildlife, and provide a strong foundation for California food webs. The native oaks featured in the plan also store large amounts of carbon compared to traditional street trees (Spotswood et al. 2017) and produce large shade canopies at a low water cost.

Replacing the existing non-native species with oaks and other native species that are better adapted to the local climate conditions will conserve water and increase resilience to climate change. *Figure F4.1* compares the relative value of redwoods, the most common species, and oaks.

The proposed tree palette in *Table F4.6* contains locally native species that have demonstrated success in urban landscapes. Proposed trees will be integrated with preserved trees to create a diverse tree canopy. The majority of the proposed tree species are included in the North Bayshore Precise Plan's suggested palette.

Figure F4.1 COMPARISON OF OAK AND REDWOOD SUITABILITY IN NORTH BAYSHORE



In accordance with the Google Habitat Design Guidelines, locally native drought tolerant trees that are approved in the North Bayshore Precise Plan will be preferentially planted throughout the Master Plan Area. Additional trees included in the North Bayshore Precise Plan will be used in select circumstances.

The plant palette in *Table F4.6* is a preliminary list (included for reference only, to indicate key species being considered) and is not exhaustive or final. The palette will be further refined and expanded upon as part of development of open space design.

Table F4.6 PRELIMINARY NORTH BAYSHORE PREFERRED NATIVE TREE PALETTE.

COMMON NAME	SCIENTIFIC NAME	WUCOLS CLASSIFICATION	NBPP GUIDELINES
Valley Oak*	Quercus lobata	Low	Yes
Arroyo Willow	Salix lasiolepis	High	Yes
Blue Elderberry	Sambucus nigra	Unknown	Yes
Box elder	Acer negundo	Moderate	Yes
California Buckeye*	Aesculus californica	Very Low	Yes
California sycamore*	Platanus racemosa	Moderate	Yes
Fremont Cottonwood	Populus fremontii	Moderate	Yes
Hollyleaf Cherry	Prunus ilicifolia	Low	Yes
Coast Live Oak*	Quercus agrifolia	Very Low	Yes
Red Willow	Salix laevigata	High	Yes
Toyon*	Heteromeles arbutifolia	Low	Yes
Western Redbud*	Cercis occidentalis	Very Low	Yes
White Alder	Alnus rhombifolia	High	Yes
Inland scrub oak	Quercus berberidifolia	Very Low	No
Big leaf Maple	Acer macrophyllum	Moderate	No
Pacific Madrone*	Arbutus menziesii	Low	Yes
Hazelnut*	Corylus cornuta	Low	Yes
Northern California Black Walnut	Juglans hindsii	Moderate	No

* Priority species for street tree replacement.

F5. Tree Removal Criteria

The following policies will be used to evaluate tree removals, relocations and retention:

1. Remove any unhealthy and/or invasive trees, and replace them with healthy, native trees or non-native but climate-adaptive species, and that align with the North Bayshore Precise Plan Plant Palette. Longer life span and larger canopy trees should be prioritized.
2. Developer may evaluate the feasibility of relocating existing, healthy, native, non-native but climate-adaptive trees, and City priority trees and evaluate modifications to buildings or site design, as requested by the City, which do not:
    a. Limit the development program under the Master Plan;
    b. Limit the functionality of the building design; or
    c. Cause a material increase in development costs.
        i. If applicable, a tree's relocation potential should consider the Master Plan and Tree Framework Plan's vision as well as consider the tree's likelihood of survival, its remaining life expectancy, and its merits relative to trees of other ages conditions or species, as well as its potential to support the Master Plan and Tree Framework Plan's vision, when compared against replacement with a new native (or non-native but climate-adapted) tree.
3. Preserve existing, healthy, native, and City priority trees outside of the proposed construction areas.
4. Consider preservation, relocation, or removal of high water usage trees on a case by case basis.
5. Consider selective reuse of tree materials from trees that need to be removed for other purposes where financial and practically feasible, within the Master Plan Area, for uses such as building materials, furniture, playscapes and/or mulch.
6. All replacement trees should contribute to canopy and biodiversity.

F6. Conclusion

The transformation of North Bayshore will result in an urban forest that places trees where they will provide the most ecological value and benefit to people. Tree removal will be carefully coordinated to allow for densification, construction of multimodal networks, and ecological renewal of North Bayshore. The replacement strategy focuses on the creation of canopy patches and corridors that link to regional habitats. Of particular importance is the Eco Gem which will serve as an extension of the Charleston Retention Basin and provide extensive natural areas for wildlife, including resident and migratory birds.

This large, densely planted area will be complemented by rows of trees along streets throughout North Bayshore that will shade pedestrian and bike paths that support a walkable community in addition to groves in open spaces that make nature more accessible to residents and community members. The native tree palette will replace the traditional ornamental species, greatly enhancing the ecological value of the district.

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Appendix A: Tree Accounting Methodology

Tree planting density and species composition of dedicated land, with potentially the exception of the Eco Gem, is at the City's discretion. For this reason, the tree removal, preservation, and replacement described below excludes dedicated land and includes the Eco Gem.

Existing Tree Counts

The number of trees that currently exist in the study area is based on an arborist report and accompanying GIS file prepared by Bartlett/Hortscience (dated January 17, 2022) that describes the species identity, site suitability and the health of each tree.

Tree Removal and Preservation Accounting

Conflicts with Tree Protection Zones and the distance between tree trunks and indicative building footprints were used to estimate tree removal and the potential for tree preservation. Trees were identified as removal trees if the TPZ of 12 (12 x diameter at breast height) intersected the right-of-way and/or the utility easement, or if the tree trunk is located within 15 ft of an indicative building footprint. Trees were identified as trees to be preserved if the TPZ did not intersect the ROW and/or the utility easements and the tree trunks were more than 15 ft from a building footprint. All trees with a low preservation suitability score i.e. poor health trees were identified as removal trees. No specific consideration was given to species or ecological value except for in the Eco Gem.

The Eco Gem is envisioned as a future biodiversity hub that extends the ecological value of the adjacent Charleston Retention Basin. The potential for large-scale restoration of native plant communities would be of highest value if all existing non-native trees were replaced with better suited local native species. Non-native trees (including coast redwoods which are not native to the Valley floor) were identified as removal trees to allow for large-scale restoration efforts and given future challenges with grading.

Replacement Tree Counts

1. **Streetscape** (public and private streets): Replacement tree counts in the streetscape assume that trees will be planted into planter areas that are greater than or equal to 5 ft wide and that no trees will be planted into planters that are less than 5 ft wide. We assumed 30 foot spacing on average for replacement trees planted along the remaining planter length, irrespective of planter widths. Replacement tree planter length equals the overall planter length minus the number of preserved trees multiplied by a 30 ft spacing. We assumed that 30% of the replacement tree planter length will not be planted to accommodate other needs (e.g. lined stormwater basins, signage, visibility, additional driveways, furnishings, etc.). Our planting density also assumes that at least 30% of the tree planters will not be lined.

2. **Open Space**: Replacement tree counts in the public and private open spaces are based on the programmatic plans included in the Master Plan's Parks Open Space Design Objectives. These plans do not represent final designs for the open spaces but are meant to convey the character, atmosphere and potential program of each space through an illustrative simulation. Therefore, the programmatic plans indicate potential planting capacity and proposed tree counts are subject to change as a result of future, detailed landscape design.

   - **Eco Gem**: This open space is intended to deliver the highest quality natural area. This will require large-scale restoration of the local ecology, significant grade changes, and minimal human disturbance after planting. Our assumption is that 80% of the Eco Gem will be overlaid by tree canopy with the following composition:
     - 20% dedicated to paths and other uses with no overlying canopy
     - 4% existing native trees
     - 5% freshwater wetland (no trees)
     - 51% willow grove (12 ft spacing on average)
     - 20% transitional/upland forest (25 ft spacing on average)
   - **Shorebird Wilds**: Given restrictions for tree planting within the Egret Rookery HOZ, it was assumed that there would be no replacement trees within the buffer zone.

3. **Development Parcel**: The at-grade open space envelopes for each of the development parcels was calculated by subtracting the indicative building envelopes, the building setbacks, and around each building, and parking areas from the total parcel area. We assumed that 10% of the at-grade open space envelope would be planted with trees except for the Marine Way sites. We assume the remaining 90% of the open space envelope will be used for other purposes (e.g. hardscape walkways, stormwater basins, utilities, and EVA).

   Replacement tree plantable area equals the overall plantable area calculated above minus the preserved tree plantable area (individual existing trees are assumed to have a 30 ft diameter).

   Replacement tree counts assume that proposed trees will on average be planted on the proposed tree plantable area 25 ft on center, an average spacing associated with medium to large scale trees. We did not include any trees in above-grade (on structures) open spaces except for in the Marine Way sites, although this could change in future design phases.

   - **Amphitheater site**: No new trees were added to the Amphitheater site to be conservative in regards to the burrowing owl HOZ and other potential constraints.
   - **Marine Way sites**: The open space envelope and parking structures of the Marine Way sites presented an opportunity for denser tree planting. We assumed that 70% of the at-grade open space envelope would be planted with trees given that no programming needed to be accommodated in this area. In addition, 30% of the indicative building footprint would be planted with trees in above-grade open spaces.

Existing Canopy Cover

The current canopy cover within the North Bayshore Master Plan and Study Area was estimated using a 60-cm resolution dataset of 2018 tree canopy that was produced for the US Forest Service by EarthDefine LLC. EarthDefine employs a proprietary tree classification model that uses computer vision and artificial intelligence techniques to identify urban tree canopy based on National Agriculture Imagery Program (NAIP) aerial imagery and U.S. Geological Survey LiDAR data.

Projected Tree Canopy Cover by Phase

To evaluate Plan performance against target canopy cover goals, we estimated tree canopy cover growth over time based on tree preservation and new tree planting quantities. Future tree canopy cover was projected for 5, 10, 15, and 25 years after planting to understand expected coverage.

Tree canopy cover size is primarily driven by tree species and local growth conditions. To project canopy cover using the information available at the master planning scale, we considered trees by size class (small, medium, and large) to represent differences in mature size by species, and by planting conditions (narrow, wide, and unconstrained planters; with or without neighboring trees).

Small trees include species such as *Cercis occidentalis* (western redbud), *Prunus ilicifolia* (hollyleaf cherry) and *Quercus berberidifolia* (scrub oak). Medium trees include *Aesculus californica* (California buckeye), *Acer negundo* (boxelder), and *Arbutus mensiesii* (Pacific madrone).

Large trees include *Acer macrophylum* (bigleaf maple), *Platanus racemosa* (California sycamore), *Populus fremontii* (Fremont cottonwood), *Quercus agrifolia* (coast live oak), and *Quercus lobata* (valley oak).

Narrow planting conditions are 5-7 ft wide, wide planting conditions are 8-15 ft wide, and unconstrained planting conditions are wider than 15 ft. Trees are considered to have neighbors if they will be less than a tree canopy diameter length apart.

For trees of each size and in each planting condition, we estimated a typical canopy diameter at the time of planting and at maturity (25 years after planting; Supplementary Table 1). Tree canopy diameter was assumed to increase linearly from the time of planting to maturity. While this assumption is unlikely to be accurate for individual trees as growth patterns vary by species (McPherson et al. 2016), at the Plan level linear growth is a simple assumption that will allow for a reasonable estimate of canopy cover over time.

Supplementary Table F1 ESTIMATED CANOPY DIAMETERS

		CANOPY DIAMETER AT PLANTING (FT)	CANOPY DIAMETER AT MATURITY (FT)	ANNUAL DIAMETER GROWTH RATE (FT/YR)
Small Trees	Narrow	3	10	0.3
	Wide	3	15	0.5
	Unconstrained	3	15	0.5
Medium Trees	Narrow	4	18	0.6
	Wide or unconstrained, with neighbors	4	25	0.8
	Unconstrained, no neighbors	4	30	1.0
Large Trees	Narrow	5	25	0.8
	Wide, no neighbors	5	40	1.4
	Wide with neighbors	5	30	1.0
	Unconstrained, no neighbors	5	50	1.8
	Unconstrained, with neighbors	5	30	1.0

To calculate canopy cover from canopy diameter, we used the equation:

$$\text{Area} = \pi (\text{Diameter} \div 2)^2$$

Using these estimates of individual tree canopy area by size, growth conditions, and time since planting, we then calculated the average individual tree canopy area at each time point for different space types based on estimated proportion of new trees in each size and planting condition class (Supplementary Table 2).

We also included a loss factor by space types to account for canopy overlap and thinning over time. Loss factors were based on expected planting density, with higher expected loss in spaces with more densely planted trees. Average individual tree canopy area for each space type at the time of planting was calculated using the equation:

$$\text{Average area at time of planting} = (\%\ \text{Tree size \& condition 1} \times \text{Tree size \& condition 1 canopy area}_{\text{time } 0}) + (\%\ \text{Tree size \& condition 2} \times \text{Tree size \& condition 2 canopy area}_{\text{time } 0}) + \ldots$$

Average canopy area at subsequent time points was calculated using the equation:

$$\text{Average area at time x} = [(\%\ \text{Tree size \& condition 1} \times \text{Tree size \& condition 1 canopy area}_{\text{time x}}) + (\%\ \text{Tree size \& condition 2} \times \text{Tree size \& condition 2 canopy area}_{\text{time x}}) + \ldots] \times (1 - \text{Loss factor})$$

New tree canopy area estimates for each Plan segment were made by multiplying the number of newly planted trees in each space type by the average individual tree canopy area for that area and time point. Preserved tree canopy area was calculated as the number of preserved trees multiplied by 706.5, the canopy area of a tree with 30 ft canopy diameter. Total tree canopy area was the sum of new and preserved tree canopy area, and was then divided by total Plan segment area to find Plan segment canopy cover. This calculation was repeated to find plan segment canopy cover at each time point.

Assumptions

- All preserved trees are mature at 30 ft diameter and experience no growth or loss over this time period.
- All newly planted trees will be 24”-36” box sizes or larger. Newly planted trees will grow at the same rate, regardless of box size.
- Tree canopies are circular, except as accounted for by loss factors.
- Planting areas will include well drained, uncompacted soil to a depth of at least 3 ft.
- Planting areas will be at least 150% as long as they are wide.
- Planting areas will include appropriate drainage.

Supplementary Table F2 ESTIMATED CANOPY LOSS FACTOR AND PROPORTION OF TREES IN EACH SPACE TYPE

		SPACE TYPE				
		STREETSCAPE	ON- STRUCTURE	MID BLOCK PUBLIC REALM	PARK	ECO GEM
Estimated loss factor		10%	0%	15%	20%	60%
Small Trees	Narrow	-	30%	-	-	-
	Wide	-	70%	50%	-	-
	Unconstrained	-	-	-	-	30%
Medium Trees	Narrow	30%	-	40%	15%	-
	Wide or unconstrained with neighbors	-	-	10%	20%	20%
	Unconstrained, no neighbors	-	-	-	-	-
Large Trees	Narrow	-	-	-	-	-
	Wide, no neighbors	-	-	-	5%	-
	Wide with neighbors	70%	-	-	30%	-
	Unconstrained, no neighbors	-	-	-	10%	-
	Unconstrained, with neighbors	-	-	-	-	50%

Appendix B: Nursery Stock

To help facilitate the planting of regionally acclimated tree species, Google owns and operates a Tree Farm located in Gilroy, CA. The Tree Farm currently has approximately 14,000 trees representing 18 species native to the Bay Area and most were locally sourced from natural Bay Area populations. The majority of trees used in North Bayshore will be sourced from the Google Tree Farm. Trees are being grown in fabric nursery bags that are planted into the ground at the Tree Farm. This in-ground grow bag tree production approach provides many advantages over above-ground tree production, including soil and water conservation, healthier root systems, and fewer truck deliveries.

An important benefit of the in-ground tree bag approach is that trees can grow larger than trees grown in above-ground boxes. Early during the North Bayshore landscape design phase, the design team will work with the Tree Farm to create a customized grow plan so that trees are optimally sized to accommodate the planting conditions.

Where feasible, very large trees will be grown and planted into open space areas that have sufficient planting area and soil volume to support establishment success. Smaller trees will be grown for planting areas where soil volumes/ site conditions are highly restricted. Although smaller trees do not provide the same immediate impact as large trees, they can be used in areas where soil quality and quantity are impacted by hardscape and other infrastructure. Google will coordinate to establish future discussions with the City's Forestry Division and Planning staff to ensure that replacement trees meet or exceed the replacement size requirements.

Appendix C: Nesting Bird Protection

In accordance with Chapter 5.3 of the North Bayshore Precise Plan, the following measures will be implemented to avoid or minimize impacts to nesting birds that are protected by the federal Migratory Bird Treaty Act and the California Fish and Wildlife code. As much as possible, tree and shrub removal will occur between September 1 and January 31, outside the bird breeding season. If tree removal does occur between February 1 and August 31, a qualified biologist will conduct pre-activity surveys for nesting birds. These surveys will be conducted no more than seven days prior to the initiation of tree removal.

During each survey, the biologist will inspect all potential nesting habitats (e.g. trees, shrubs, and buildings) within 300 ft of the work area for raptor nests; and within 100 ft of the work area for nests of non-raptors. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist, in coordination with the California Department of Fish and Wildlife, shall determine the extent of a disturbance-free buffer zone to be established around the nest. No new activities, that were not ongoing when the nest was established, will occur as long as the nest is active.